

# Exelixis 3<sup>rd</sup> Annual R&D Day

December 5, 2007

Mandarin Oriental Hotel

New York, NY

### Forward-Looking Statement

This presentation contains certain statements that are forward-looking, including, without limitation, statements relating to the future development and potential efficacy of XL647, XL880, XL184, XL019 and other Exelixis compounds; the timing of the initiation of clinical trials for XL019, XL184, XL647, XL880, XL652, XL147, XL765, XL518, XL820, XL281 and other Exelixis compounds; the availability of data for XL019 and other Exelixis compounds; the expected timing of the completion of clinical trials for XL647, XL844, XL281 and XL228; the anticipated filing of additional IND applications for XL139 and other Exelixis compounds; the timing of potential compound selections by GlaxoSmithKline and Genentech; the timing and success of further business activities and our estimated future revenues and expenses, estimated future balances of cash and cash equivalents. Words such as "predicted," "possible," "encouraging," "expected," "appears" "believes,' "may," "would," "continue," "can," "will" "could," "expect," "should," "anticipate," "initiate," "indicate," "suggest," "plan," "intend," "potential," "promising" and similar expressions are intended to identify forward-looking statements. These statements are only predictions and are based upon our current expectations. Forward-looking statements involve risks and uncertainties. Our actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation: (1) risks related to our dependence on and relationship with GlaxoSmithKline and Symphony Evolution; (2) risks related to our need for additional financing, including our ability to enter into new collaborations, continue existing collaborations and receive milestones and royalties derived from future products developed from research efforts under collaborative agreements; (3) the potential failure of XL647, XL880, XL184, XL019, XL652 or any of our other compounds to demonstrate safety and efficacy in clinical testing; (4) our ability to complete and initiate clinical trials at the referenced times; (5) our ability to conduct clinical trials sufficient to achieve positive completion; and (6) our ability to successfully advance and develop additional compounds. These and other risk factors are discussed under "Risk Factors" and elsewhere in our Quarterly Report for the guarter ended September 30, 2007 and our other reports filed with the Securities and Exchange Commission. We expressly disclaim any duty, obligation or undertaking to release publicly any updates or revisions to any forward-looking statements made in this discussion to reflect any change in our expectations with regard thereto or any changes in events, conditions or circumstances on which any such statements are based.



# Opening Remarks George Scangos, President & CEO

#### **Exelixis Overview**

Broad clinical pipeline with significant commercial potential

Remarkable productivity

Multiple programs moving forward minimize risk, maximize upside

Building substantial value

Success of one or two drives upside

Limited downside with compound failure

#### **Exelixis Overview**

Excellent data sets on several compounds

Ultimate goal is marketed compounds

Making significant progress towards pivotal trials and market

Compounds with weaker data sets will be stopped

Large pipeline enables choices to put resources behind compounds with greatest potential

Moderate net cash use

Continued ability to generate non-dilutive cash going forward

Several significant upcoming events

Data presentations

Opt-in decisions, milestones

New partnerships

### Exelixis R&D Day - Agenda

#### Welcome

Exelixis 2007 R&D in Review

#### Resistance in NSCLC

XL647 NSCLC Pivotal Trial Plans

#### Therapeutic Opportunities in Thyroid Cancer

XL184 MTC Pivotal Trial Plans

#### Exelixis 2008 Pipeline – Intro

- Clinical Update
- Preclinical Update

Financial Overview

Closing

Senior Management Q&A

- G. Scangos
- M. Morrissey
- V. Miller
- G. Schwab
- S. Sherman
- G. Schwab
- M. Morrissey
- G. Schwab
- P. Lamb
- F. Karbe
- G. Scangos



# R&D Overview Michael Morrissey, President R&D

#### 2007 - Transformational Year for Exelixis

#### Product Focus – Main strategic driver for company

- Numerous near-term shots-on-goal for oncology products
- Potential large commercial upside in broad range of tumor types

#### Integrated R&D group realigned to maximize success

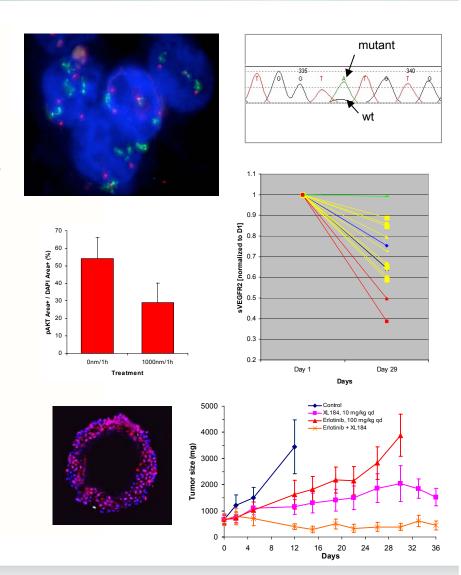
- Exelixis discovery continues to deliver high quality candidates
- Integration of translational medicine into R&D process
- Enhanced development productivity and output
  - 30 active clinical trials in 2007
  - ~300 patients enrolled in Exelixis clinical trials in 2007



#### Translational Medicine in 2007

# Broad implementation of translational medicine approaches across all clinical programs

- Genotyping of patient tumor samples
- Plasma biomarkers and proteomics
- Circulating tumor cell analyses
- Histological analyses
- Key preclinical data to help guide development strategies



#### 2007 - Transformational Year for Exelixis

#### Early stage assets rapidly advancing into full development

#### POC data obtained & report submitted in 2007

- XL647 (NSCLC), XL880 (PRC), XL784 (DN) submitted to GSK
- Additional opt-in decisions in 2008

#### Clinical activity observed for XL184 (MTC) & XL019 (MF)

- Initiate pivotal trials for XL647, XL019 and XL184 in mid-2008
- XL019 phase 1 data in MF to be presented at ASH on Dec 10th

# Push to POC in 2007: Plan, Generate & Present Key Data

#### Advance early pipeline - rapid go/no go decisions

Shift POC activities to Phase 1 from Phase 2 when feasible

#### **Exelixis POC criteria:**

- Good human PK
- Acceptable tolerability at exposure that leads to anti-tumor activity in preclinical models
- Plasma biomarker and tumor PD
- Objective responses in enriched patient populations with appropriate genetic lesions

POC in Phase 1 = XL184, XL019, XL518, XL147 & XL765

# Push to POC in 2007: Plan, Generate & Present Key Data

#### XL647, XL880, XL184, XL518 and XL019\*\*\*

- Potential first-in-class and/or best-in-class compounds
- POC drives partner's opt-in decision and defines ownership

#### Key scientific meetings = forum for data release

- ISLAC, ASCO, ASH, EORTC, ASN = high impact meetings
- XL880 oral presentation at ASCO
- 13 posters at EORTC
- 4 abstracts at ASH with oral presentations for XL019 & XL228

#### Increase transparency of data and news flow

### Key 2007 YTD Milestones

**5 DCs and pre-DCs:** XL139, XL888, XL652, EXEL-5413, EXEL-5465

4 INDs: XL418, XL147, XL765, XL019

7 "First Time in Human" XL418, XL281, XL518, XL228,

(FTIH) studies initiated: XL765, XL147, XL019

<u>5 "First Patient In"</u> XL844-002, XL880-204, XL647-203,

(FPI) studies initiated: XL880-203, XL999-002

**Implement Phase 1 POC:** XL184, XL019, XL765, XL147 & XL518

POC Data for XL647: Presented to GSK (May); IASLC (Sept)

POC Data for XL880: Presented to GSK (Sept); EORTC (Oct)

POC Data for XL784: Presented to GSK (Oct); ASN (Nov)

# Exceed Goals and Expectations for R&D collaborations

#### **GSK** collaboration

POC data reports submitted for XL647, XL880 and XL784

#### BMS oncology drug discovery:

Extremely strong start to collaboration – update in 2008

#### Genentech MEK Inhibitor collaboration

XL518 phase 1 investigation advancing quickly – update in 2008

#### BMS LXR discovery collaboration:

DC selected - FTIH on track for December; collaboration extended

#### BMS oncology Target ID:

Additional targets identified leading to milestone payment

#### **GNE Notch:**

Key reagents/assays delivered; expand regenerative medicine capability

#### Up to Five Opt-in Decisions in 2008

### **Exelixis Pipeline**

	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2, VEGFR2 – NSCLC, Breast, GBM, H&N					
XL784	MMP2, ADAM	10 - Diabetic Ne	phropathy			
XL880	MET, VEGFR2	? - Papillary Ren	al Cell, Gastric,	H&N		
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2	2				
XL228	IGF1R, ABL, S	RC				
XL999	VEGFR2, PDG	FR, FGFR1/3, F	LT3 - NSCLC			
XL147	PI3K					
XL765	PI3K & mTOR					
XL418	AKT & S6K					
XL019	JAK2					

The compounds XL647, XL784 and XL999 have been out-licensed to Symphony Evolution, Inc. and are subject to a repurchase option. Pursuant to a product development and commercialization agreement between Exelixis and GlaxoSmithKline, GlaxoSmithKline has the option, after completion of clinical proof-of-concept by Exelixis, to elect to develop up to three compounds in Exelixis' product pipeline, including XL784 and XL999, but excluding XL647, XL518, XL147, XL765 and XL019. Finally, the compound XL518 is the subject of a codevelopment collaboration between Genentech and Exelixis.

#### Exelixis Pipeline – 2008 Preview

#### Three compounds moving into pivotal trials

XL647 (NSCLC), XL184 (MTC) and XL019 (MF)

#### Numerous compounds moving into phase 2

• XL147/765 (PI3K), XL518 (MEK), XL820 (KIT), XL281 (RAF)

#### Two compounds discontinued

- XL418 (low exposure), XL999 (CV safety)
- De-prioritize XL784 investment pending internal review

#### New compounds advance from preclinical

- DCs: XL139 (HH), XL888 (HSP90), XL652 (LXR)
- Pre-DCs: EXEL-5413 (cdc7), EXEL-5465 (11β-HSD)

# Acquired Resistance to EGFR Tyrosine Kinase Inhibitors in Nonsmall Cell Lung Cancer

Vincent A. Miller, M.D.
Thoracic Oncology Service
Memorial Sloan-Kettering Cancer Center

### **Lung Cancer**

Divided into small cell (15-20%) and non-small cell carcinomas (80-85%)

Leading cancer killer of men and women in U.S.

~ 1,000,000 cases annually world wide

Epidemiology markedly different in Pacific Rim countries (e.g.-South Korea)

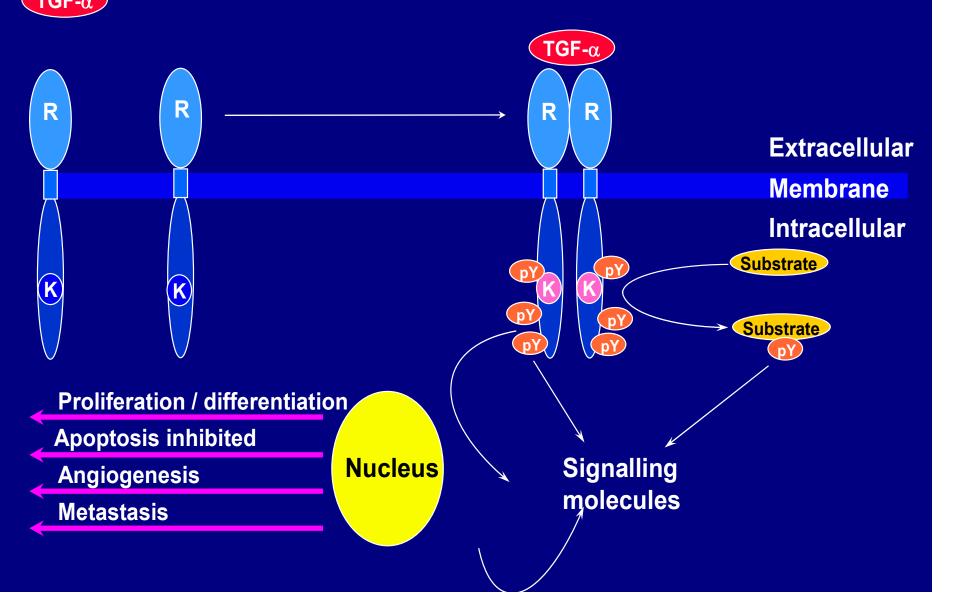
EGFR TK domain mutations:

- ~ 13% of US lung cancers
- ~ 30-40% of lung cancers in Pacific Rim

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# **Epidermal Growth Factor Receptor (EGFR)**





# **EGFR Hypothesis in NSCLC**

**Block EGFR-mediated effects** 



Arrest non-small cell lung cancers dependent on EGFR signaling

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#### EGFR Mutations in Lung Cancer: Correlation with Clinical Response to Gefitinib Therapy

J. Guillermo Paez,<sup>1,2\*</sup> Pasi A. Jänne,<sup>1,2\*</sup> Jeffrey C. Lee,<sup>1,3\*</sup>
Sean Tracy,<sup>1</sup> Heidi Greulich,<sup>1,2</sup> Stacey Gabriel,<sup>4</sup> Paula Herman,<sup>1</sup>
Frederic J. Kaye,<sup>5</sup> Neal Lindeman,<sup>6</sup> Titus J. Boggon,<sup>1,3</sup>
Katsuhiko Naoki,<sup>1</sup> Hidefumi Sasaki,<sup>7</sup> Yoshitaka Fujii,<sup>7</sup>
Michael J. Eck,<sup>1,3</sup> William R. Sellers,<sup>1,2,4</sup>†
Bruce E. Johnson,<sup>1,2</sup>† Matthew Meyerson<sup>1,3,4</sup>†

#### Activating Mutations in the Epidermal Growth Factor Receptor Underlying Responsiveness of Non–Small-Cell Lung Cancer to Gefitinib

Thomas J. Lynch, M.D., Daphne W. Bell, Ph.D., Raffaella Sordella, Ph.D., Sarada Gurubhagavatula, M.D., Ross A. Okimoto, B.S., Brian W. Brannigan, B.A., Patricia L. Harris, M.S., Sara M. Haserlat, B.A., Jeffrey G. Supko, Ph.D., Frank G. Haluska, M.D., Ph.D., David N. Louis, M.D., David C. Christiani, M.D., Jeff Settleman, Ph.D., and Daniel A. Haber, M.D., Ph.D.

# EGF receptor gene mutations are common in lung cancers from "never smokers" and are associated with sensitivity of tumors to gefitinib and erlotinib

William Pao\*\*\*, Vincent Miller\*<sup>5</sup>, Maureen Zakowski<sup>1</sup>, Jennifer Doherty\*, Katerina Politi\*, Inderpai Sarkaria<sup>j</sup>, Bhuvanesh Singh<sup>j</sup>, Robert Heelan\*\*, Valerie Rusch<sup>j</sup>, Ludinda Fulton\*\*, Elaine Mardis\*\*, Doris Kupfer\*\*, Richard Wilson\*\*, Mark Kris\*<sup>5</sup>, and Harold Varmus\*

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2004

# Prospective Trials of EGFR-TKIs in Patients with EGFR Mutations

Study	<u>Agent</u>	<u>RR (%)</u>	PFS*	OS*/1 yr (%)
Paz-Ares	Erlotinib	31/38 (82)	13.3	NR/81
Morikawa	Gefitinib	13/20 (65)	N.R.	NR
Sunaga	Gefitinib	16/21(77)	13	NR
Sutani	Gefitinib	21/27 (77)	9.4	15.4/NR
Inoue	Gefitinib	12/16 (75)	9.7	NR
Asahina	Gefitinib	12/16 (75)	8.9	NR
		105/138 (76)		

\*measured in months

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# iTARGET (Sequist, et al)

1st prospective U.S. trial

Exons 18-24 sequenced

Response rate 55% (95% CI 36-73)

• Slightly higher (65%) in exon 19 del and exon 21 L858R

Median PFS 11.4 months

Median OS 20.8 months/1 yr survival 73%

No additive value of FISH to mutation analysis

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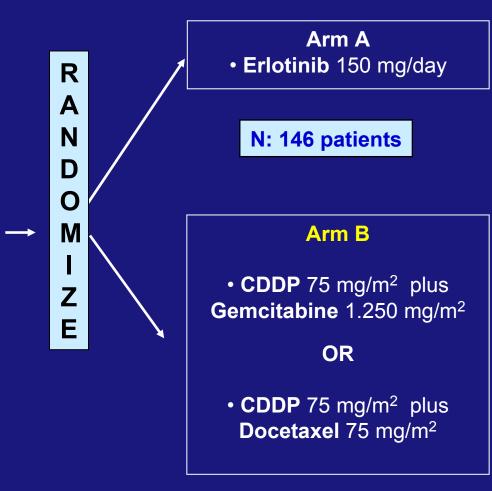
### GECP 06/01 opened February 2007



- Stage IV NSCLC
- Mutations in exon 19 or 21 of *EGFR*.
- Measurable or evaluable disease.
- ECOG PS  $\leq 2$ .

#### Stratified by:

- ECOG PS
- In-frame del (exon 19) vs.
   L858R (exon 21)
- Mutation analysis in serum vs. both in serum and tumour tissue.



Courtesy of Dr. Rafael Rosell

# Acquired Resistance: Background

Virtually all patients sensitive to gefitinib or erlotinib eventually have progression of disease.

Patients with CML have a high rate of response to treatment with imatinib.

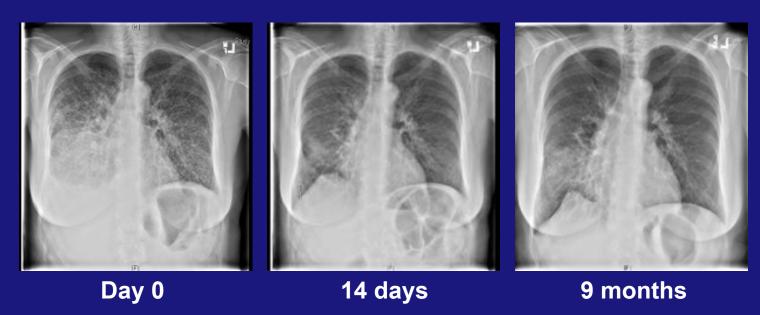
A proportion of patients acquire resistance after an initial response.

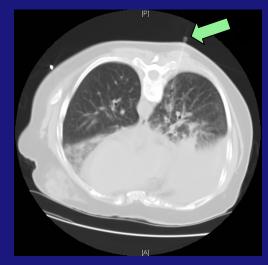
In vivo there are a small number of conserved changes in the ABL tyrosine kinase domain which confer resistance.

Other patients with acquired resistance have amplification of the BCR-ABL gene.

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# Patient 1 – Response and Progression



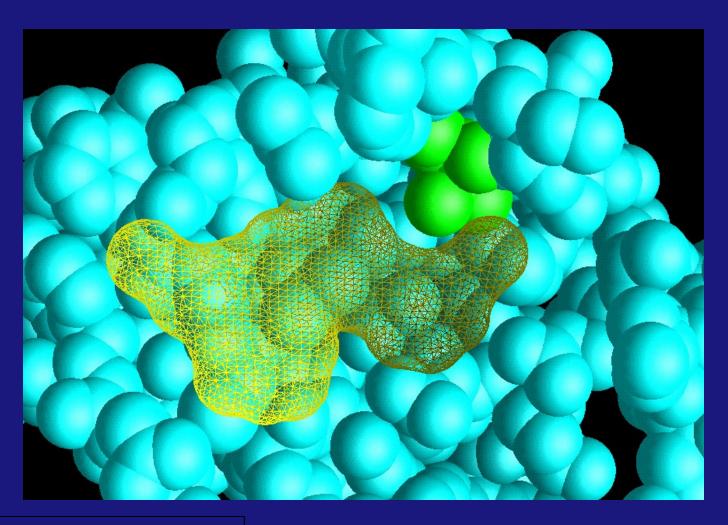




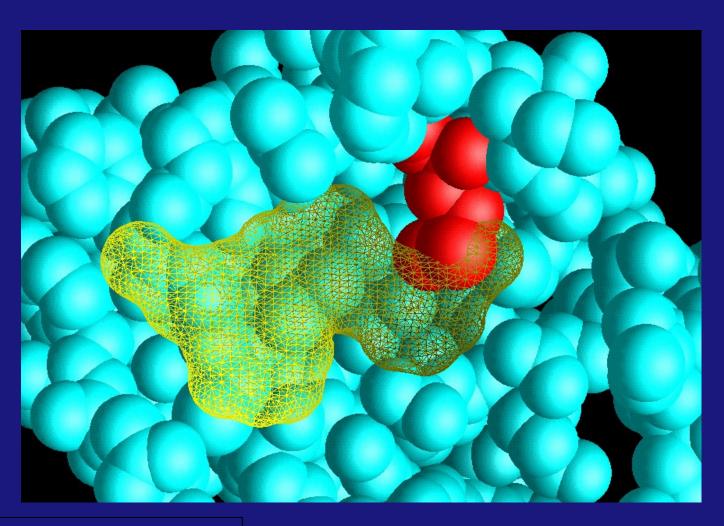


12 months

# **Erlotinib and T790**



### **Erlotinib and T790M**



# T790M is Common in Acquired Resistance to Gefitinib or Erlotinib

Report	Frequency of T790M		
Balak CCR (MSKCC)	9/21		
Kobayashi <i>NEJM</i>	1/1		
Kwok <i>PNAS</i>	2/2		
Gow PLoS Med	1/1		
Mitsudomi <i>CCR</i>	7/14		
Total	20/39		

Balak et al CCR 2006,

# What About Other Mechanisms of Acquired Resistance?

Array CGH

244K Agilent chips

12 patients, 12 samples with acquired resistance

Compare to aCGH data (44K chips) from 38 patients -- all EGFR mutant never treated with TKI

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### MET Amplification in Acquired Resistance

# 9/43 (21%) with increased copies of MET relative to MTHFR by q PCR

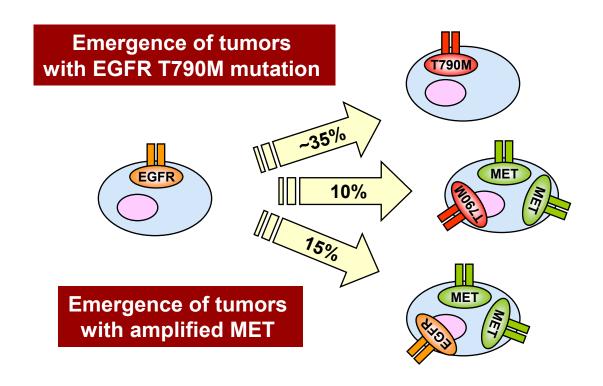
### Among 10 tumors from 9 patients:

- 4 with T790M
- 6 without T790M
- 2 had met amplification pre-treatment

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Treat erlotinib – relapsed patients

Treatment up front may prevent or delay emergence of resistant tumors

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# Strategies to Overcoming Acquired Resistance to EGFR-TKIs in the Clinic

Change in dose or schedule of EGFR-TKI

Change to a "different" TKI-e.g.-BIBW 2992, CI1033, EKB569, HKI-272, XL647

Use of geldanamycin derivatives (e.g.-IPI-504)

**Met inhibition** 

**HKI-272** 

Irreversible pan erbB receptor tyrosine kinase inhibitor

In Vitro ErbB Receptor Tyrosine Kinase Assay of HKI-272 Inhibition

	IC <sub>50</sub> (nM)			
Assay	EGFR	HER2	HER4	
Autophosphorylation	92	59		
Substrate phosphorylation	12	39	19	

Rabindran et al. Cancer Res 64: 3958, 2004

 Covalently binds to EGFR and HER2 at the ATP binding site and inhibits tyrosine kinase activity





### **Biologic Activity of HKI-272**

- Inhibits the growth of tumor cells in culture or xenografts that:
  - Express EGFR and HER2
  - ► Contain sensitizing and resistance-associated EGFR mutations (Kwak et al, Proc Natl Acad Sci USA 102:7665, 2005)
  - Shrinks de novo mouse lung tumors driven by:
    - ▶ EGFR kinase domain mutations (Ji et al, Cancer Cell, in press)
    - ▶ EGFRvIII mutations (Ji et al, Proc Natl Acad Sci USA, in press)





#### **HKI-272 Phase 1 Study: Conclusions**

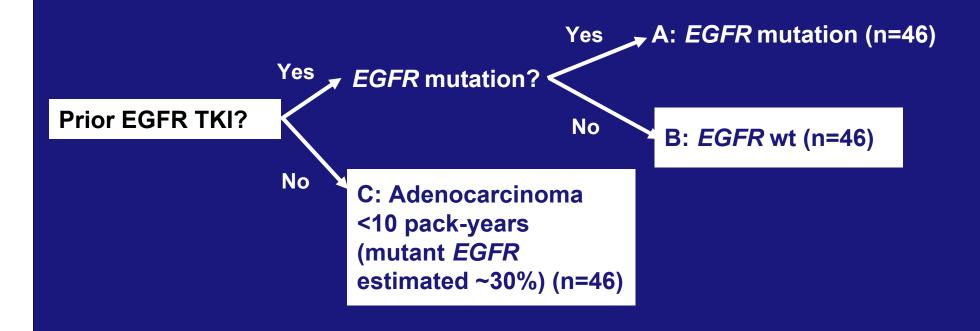
HKI-272 was administered to patients with solid tumors on a once-daily oral treatment schedule.

- The MTD was 320 mg HKI-272.
- Safety observations
  - ► The most frequently occurring grade 1-3 HKI-272-related treatment-emergent adverse events (TEAEs) were diarrhea, nausea, and asthenia.
  - ► The most frequently occurring grade 3 HKI-272-related TEAEs were diarrhea and asthenia.
  - ▶ No grade 4 HKI-272-related TEAEs occurred.





## Study Populations: HKI-272 Phase 2 study



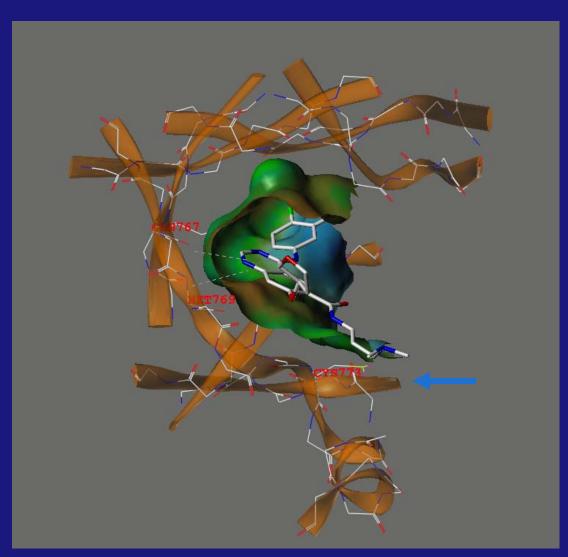
# BIBW 2992 - Irreversible Dual EGFR /HER2 Inhibitor

- Anilino quinazoline derivative
- Irreversible dual EGFR/HER2 inhibitor
- Binds covalently to Cys <sup>773</sup> of the EGFR and Cys <sup>805</sup> of HER2

HER2 - Cys 805

Solca et al., 17th EORTC-NCI-AACR Symposium on " Molecular Targets and Cancer Therapeutics" Philadelphia, PA, USA, November 14 – 18, 2005

## BIBW 2992 Docking to EGFR



## Kinase Inhibition Profile IC<sub>50-</sub>

<b>EGFR Kinase</b>	0.5 nM
HER2 Kinase	14 nM

BIRK	
>100,000 nM	
VEGFR-2	>100,000
nM	
HGFR	13,000
nM	
c-src	> 4,000
ьМ	

Solca et al., 17th EORTC-NCI-AACR Symposium on " Molecular Targets and Cancer Therapeutics" Philadelphia, PA, USA, November 14—18, 2005

December 5, 2007



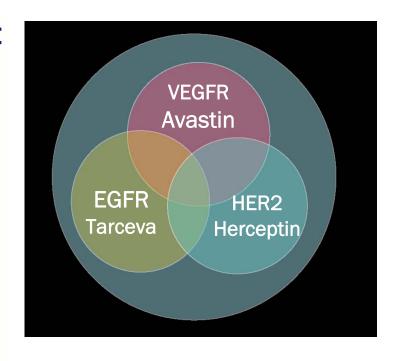
### XL647 – Overview

### Potent inhibition of kinase spectrum:

- VEGFR2, EGFR and HER2
- Excellent PK
- Sustained inhibition of targets in preclinical PD models

# Active *in vitro* and *in vivo* against EGFR-T790M mutation

- Preclinical H1975 model, erlotinib resistant
- Clinical Cancer Research 13, 3713, 2007





## XL647 Inhibits WT and Mutant EGFR

	XL647	ZD6474	gefitinib	erlotinib
EGFR_WT	12	>216	19	25
EGFR_L858R	7	>216	8	5
EGFR_L861Q	10	>216	15	15
EGFR_vIII	48	>3000	77	170

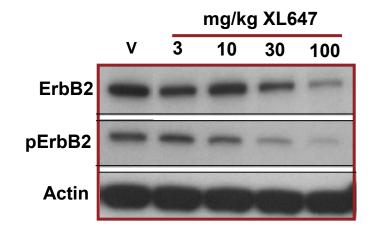
 $IC_{50} = nMoI$ 

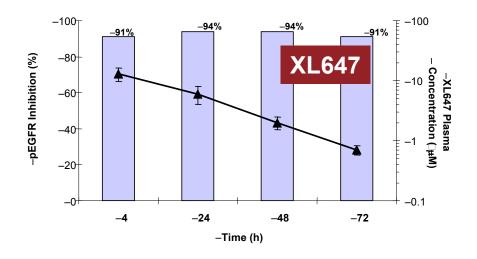
XL647 inhibits activated EGFR mutants in cells with similar or better potency compared to other EGFR-TKIs

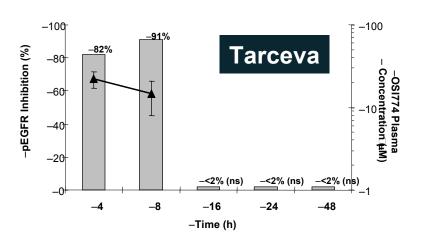


## XL647: In Vivo Target Modulation

	KDR	EGFR	ErbB2
Est. ED <sub>50</sub> (mg/kg)	3.5	2.8	7
Duration of Action		>72 Hr	>72 Hr







# **Erlotinib-Resistant NSCLC Cell Line** is Sensitive to XL647



XL647 inhibits the proliferation of cell lines expressing WT EGFR and L858R/T790M EGFR at clinically achievable concentrations

- Erlotinib and gefitinib highly active against mutant EGFR
- Activity vs WT EGFR is at concentrations close to or above clinical Cmax
- Activity vs T790M form of EGFR at concentrations> clinical Cmax

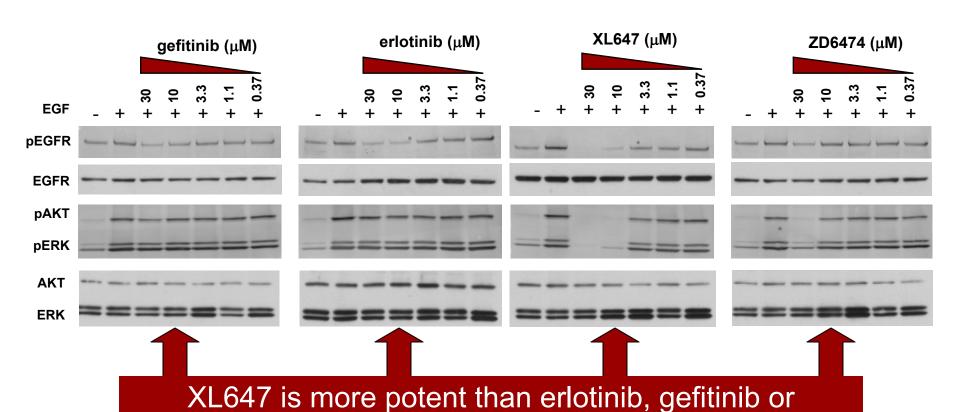
Cell Line	A431	H3255	H1975	Clinical
Genotype	EGFR WT*	EGFR L858R	EGFR L858R / T790M	Cmax (dose)
Erlotinib	2.3 uM	<0.005 uM	3.2 uM	2.5 uM (150 mg)
Gefitinib	6.0 uM	<0.005 uM	10.8 uM	1 uM (250 mg)
XL647	0.63 uM	0.002 uM	0.26 uM	0.8 uM (300 mg)

<sup>\*</sup> highly amplified

Proliferation IC<sub>50</sub>s



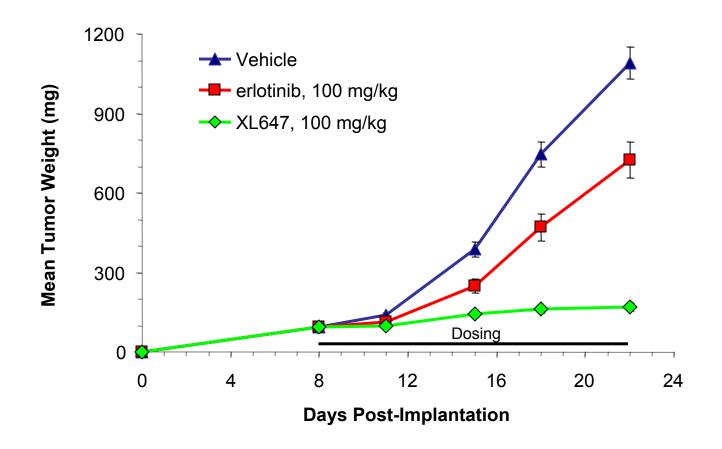
## XL647 Retains Activity in H1975 Cells



vandetanib in the inhibition of signaling in H1975 cells



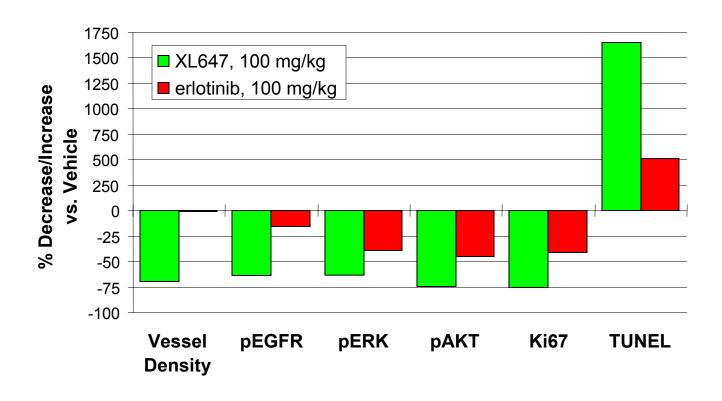
# XL647 Inhibits the Growth of H1975 Tumors with T790M Erlotinib Resistant Mutation in EGFR



XL647 is superior to erlotinib in the H1975 human lung xenograft tumor model with mutant EGFR



## XL647 – Targeting Mutant EGFR In Vivo

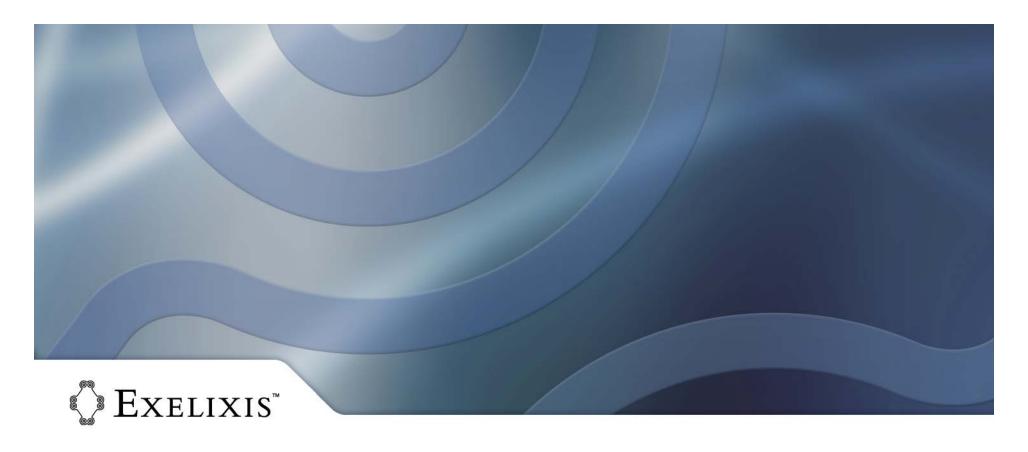


XL647 is superior to erlotinib for inhibition of multiple IHC endpoints in the H1975 xenograft tumor model



### **XL647 Clinical Studies**

	Design	Schedule	Patient Population
Phase 1	3 + 3 Dose Escalation Expanded MTD	Intermittent 5 and 9	Advanced Solid Tumors
Phase 1	3 + 3 Dose Escalation Expanded MTD	Daily	Advanced Solid Tumors
Phase 2	Simon 2 Stage 1 <sup>ary</sup> Endpoint RR	Intermittent 5and 9 350 mg	1st Line NSCLC Clinically Selected
Phase 2	Simon 2 Stage 1 <sup>ary</sup> Endpoint RR	Daily 300 mg	NSCLC Progression after Benefit from EGFRI



# A Phase I Dose-Escalation and Pharmacokinetic (PK) Study of XL647, a Novel Spectrum Selective Kinase Inhibitor, Administered Orally Daily to Patients With Advanced Solid Malignancies (ASM)

Julian Molina,<sup>1</sup> Heather A. Wakelee,<sup>2</sup> Joanne Fehling,<sup>2</sup> Janet L. Lensing,<sup>1</sup> John Calcagni,<sup>2</sup> Roel P. Funke,<sup>3</sup> Dale Miles,<sup>3</sup> Branimir I. Sikic<sup>1</sup>

<sup>1</sup>Mayo Clinic, Rochester, MN; <sup>2</sup>Stanford University, Stanford, CA; <sup>3</sup>Exelixis, Inc., South San Francisco, CA

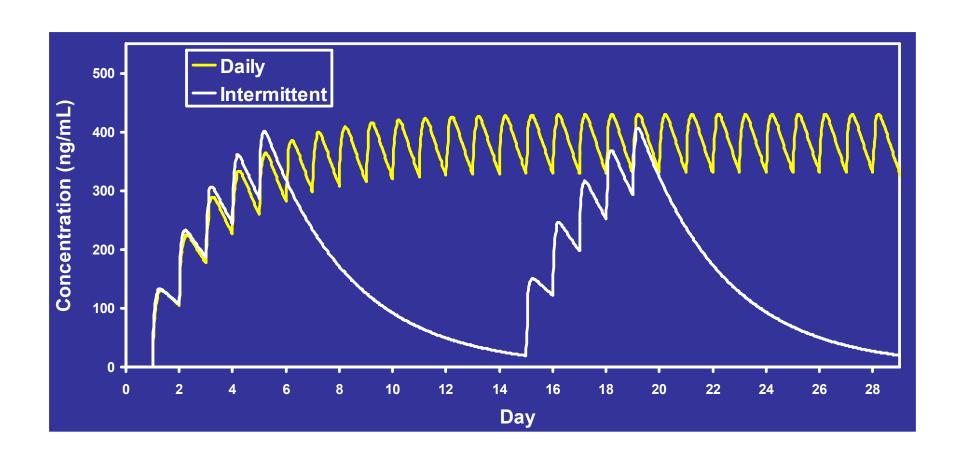


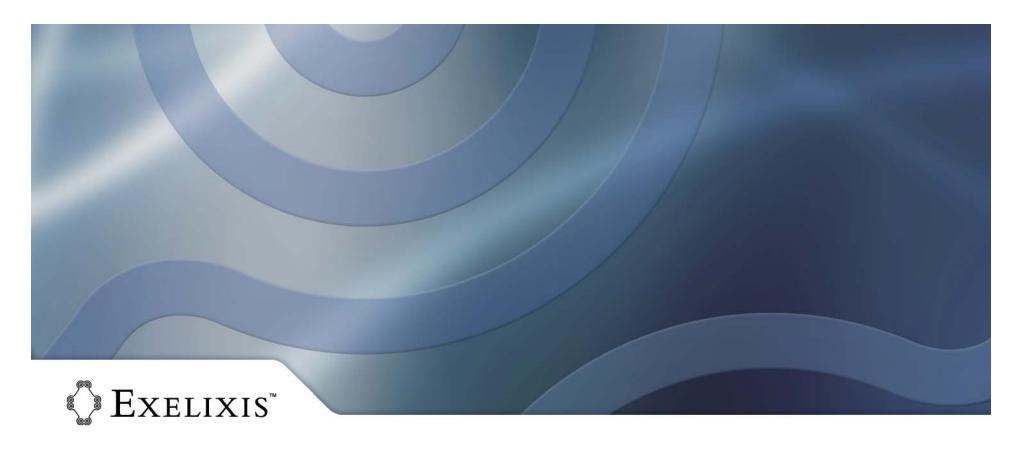
### XL647 Daily Dose Phase 1 Experience

- Daily oral XL647 was generally well tolerated
- The MTD has been determined to be 300 mg
- Pharmacokinetic steady state reached by approximately Day 15
- Once-daily administration XL647 (300 mg) is predicted to yield an approximately 2-fold increase in average exposure compared with intermittent 5 & 9 dosing (350 mg) while maintaining a similar tolerability profile
- > 3 months SD observed in 11/21 evaluable patients



## XL647 PK: Daily vs 5 on 9 off Dosing





# A Phase II Study of XL647 in Patients With Non–Small Cell Lung Cancer (NSCLC) Enriched for Presence of EGFR Mutations

N. A. Rizvi, M. Kris, 1 V. Miller, L. Krug, 1 S. Bekele, A. Dowlati, 2 K. Rowland, M.E. Tonda, B. Mitchell, L. C. Ruckdeschel, R. Chaplen, N. Aggarwal, S. Gadgeel

<sup>1</sup>Memorial Sloan-Kettering Cancer Center, New York, NY; <sup>2</sup>Case Western Reserve University, Cleveland, OH; <sup>3</sup>Carle Cancer Center, Urbana, IL; <sup>4</sup>Exelixis, Inc., South San Francisco, CA; <sup>5</sup>Karmanos Cancer Institute, Detroit, MI;



## **Baseline Characteristics**

Characteristic	No. of patients (N = 37)
Median age (range), years	65 (44-86)
Gender (M/F)	11/26
Race	
Asian	1
White	31
African American	2
Pending	3
Smoking history	
Never	17
<15 pk-yr	12
>15 pk-yr	5
Pending	3
Tumor EGFR mutational status	
L858R	2
Exon 19 deletion	5
Wild type	13
NA <sup>a</sup>	17
Tumor KRAS mutational status	
Wild type	13
$NA^{a}$	24



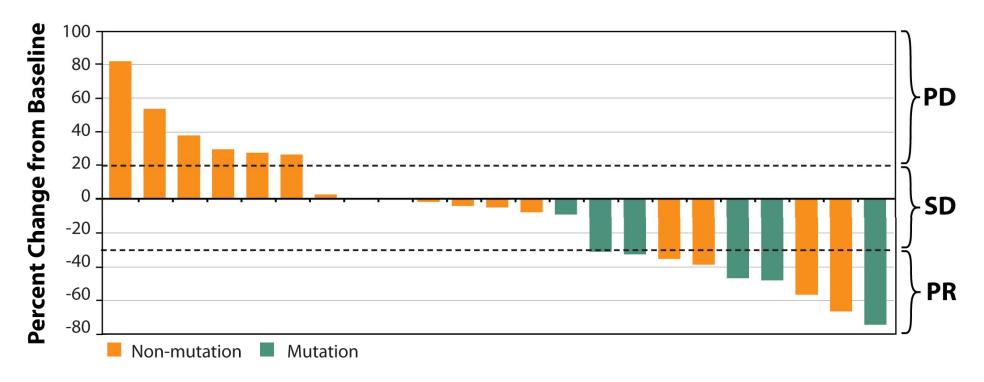
## Response to XL647 in 1st Line NSCLC (n = 34)

	N	RR	Clinical Benefit PR + SD > 3 mths
First-line in clinically selected	34	~30% (10/34)	~68%
EGFR activating mutation	7	86% (6/7)	100% (7/7)
EGFR Wildtype	13	23% (3/13)	77% (10/13)
EGFR Status Pending	14	7% (1/14)	42% (6/14)

Time on study ranges up to 12+ months



# Waterfall Plot: Best Response for Target Lesions by Patient Based on the Maximal Percentage of Tumor Reduction



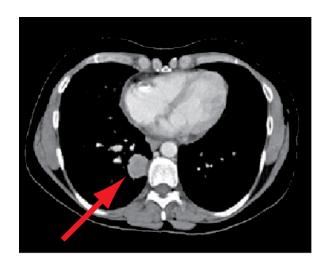
Five patients with PD are not included: 4 had new non-target lesions and 1 experienced clinical progression. Six patients are not included due to pending tumor measurements (5 with SD and 1 with uPR [patient has *EGFR* exon 19 deletion])

PD, progressive disease; SD, stable disease; PR, partial response.

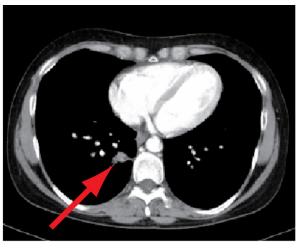


## Representative CT Scan Images

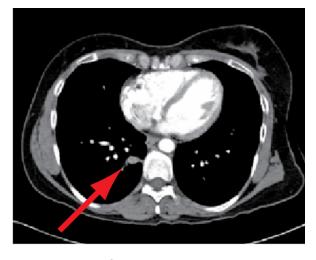
# Patient with a documented EGFR exon 19 deletion who experienced a partial response.



Pre-treatment



Post-treatment (8 wks)

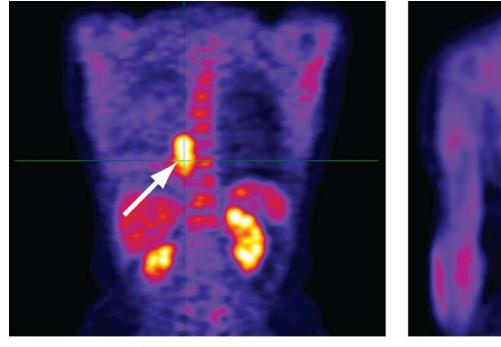


Confirmation (14 wks)

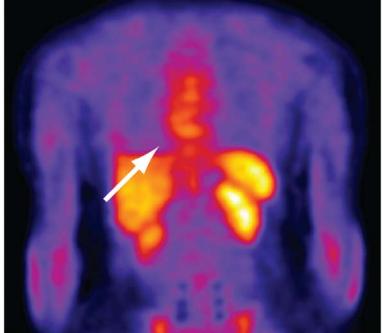


### PET Scans (Same Patient as Previous Slide)

Baseline and after 11 weeks of treatment with XL647. No FDG-avid activity is evident in the post-treatment scan.







Post-treatment (11 wks)



# Summary of XL647-Related Adverse Events (Reported by >10% of Patients; n = 32)

Adverse events <sup>a</sup>	No. patients (%) with severity Grade 1	No. patients (%) with severity Grade 2	No. patients (%) with severity Grade ≥3	Total no. patients
Diarrhea	15 (47)	2 (6)	-	17 (53)
Rash <sup>b</sup>	10 (31)	2 (6)	-	12 (38)
Fatigue	9 (28)	1 (3)	-	10 (31)
Nausea	8 (25)	-		8 (25)

<sup>&</sup>lt;sup>a</sup>Adverse events graded using the Common Terminology for Adverse Events Version 3.0. Terms are the Preferred Term/MedDRA 10.

#### No dose modifications for rash or diarrhea

Clinically asymptomatic QTc prolongation: Grade 1: n = 8; Grade 2: n = 8 Grade 3: n = 2 of which 1 was ineligible due to Grade 2 QTc at baseline

<sup>&</sup>lt;sup>b</sup>Rash includes acne, rash, rash macular, rash maculo-papular, and rash pustular.



### Conclusions

- •XL647 has demonstrated clinical benefit in 68% of patients (10 partial response and 13 stable disease as their best response).
- Patients with and without mutations responded to XL647:
  - 5 had EGFR exon 19 deletions,
  - 1 had an L858R point mutation,
  - 3 were wild type
  - 1 has pending mutational analysis
- All 7 patients with EGFR-activating mutations demonstrated clinical benefit (6 partial response, 1 stable disease).
- XL647 is generally well tolerated in this patient population.
- The most frequently reported adverse events assessed as being related to XL647 were diarrhea, rash, fatigue, and nausea, all of which were Grade 1 or Grade 2 in severity.



## XL647 in EGFR-TKI Acquired Resistance

### **Patient Population:**

- NSCLC
- Progressive disease following benefit from previous EGFR-TKI (> 12 week SD or PR)
- Expected frequency of T790M: 50% of patients

Simon 2 stage design

Daily dosing at 300 mg

**Primary endpoint: RR** 

**Actively accruing patients** 



### XL647 Profile To Date

# Generally well tolerated at doses of 350 mg qd on intermittent 5&9 and 300 mg daily dosing

Few Grade 3 events related to XL647

Rash

Diarrhea

Clinically asymptomatic QTc prolongation observed

Anti-tumor activity in NSCLC with 68% clinical benefit (PR and SD)

Clear anti-tumor activity in tumors with EGFR activating mutations and wild type EGFR

Exposure with daily dosing at MTD approximately 2 fold exposure observed with intermittent 5&9 dosing at MTD with similar tolerability profile



### MET Amplification in Acquired Resistance

# 9/43 (21%) with increased copies of MET relative to MTHFR by q PCR

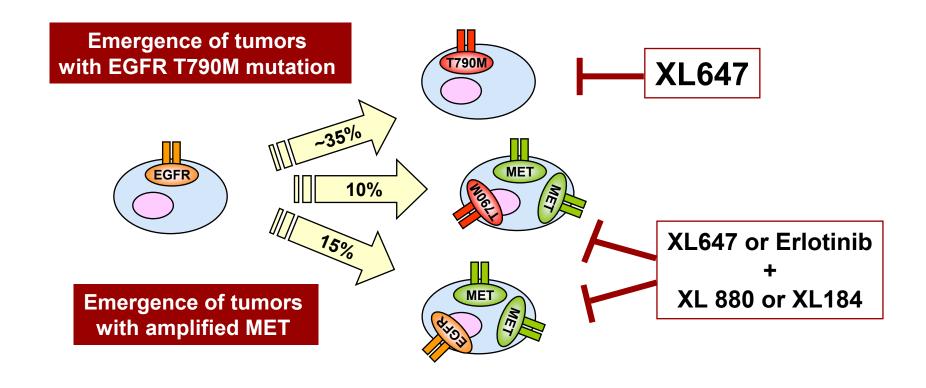
## **Among 10 tumors from 9 patients:**

- 4 with T790M
- 6 without T790M

## 2 had met amplification pre-treatment



# Mechanisms Driving Relapse of NSCLC Tumors Following Response to EGFR Inhibitors

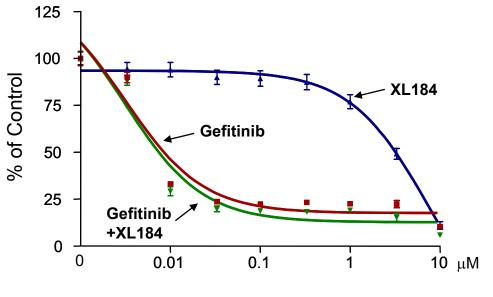


Treat erlotinib – relapsed patients

Treatment up front may prevent or delay emergence of resistant tumors

# XL184 Re-sensitizes Gefitinib - Resistant Cells

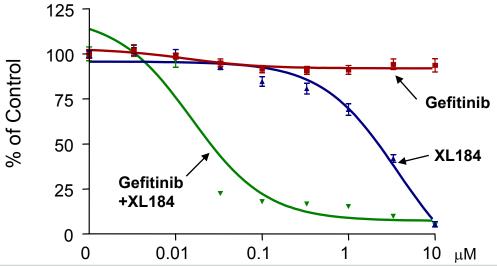




Data courtesy of Dr P. Janne, Dana Farber Cancer Inst.

**Gefitinib sensitive** 

HCC827 EGFR-Ex19del/amp



**Gefitinib Resistant** 

HCC827 GR6
EGFR-Ex19del/amp
MET amp

Sensitive to the Combination of Gefitinib and XL184

# MET/VEGFR2 Inhibitor – XL184

### EXELIXIS<sup>™</sup>

### **NSCLC**

Patients who have progressive disease on erlotinib

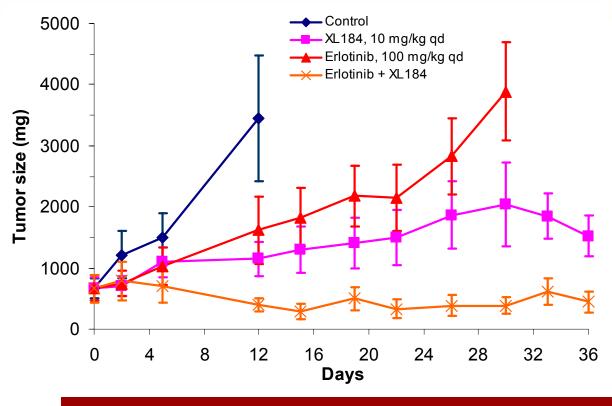
Combination of EGFRI and

- Phase 1 run in study to evaluate safety and PK of combining erlotinib and XL184
- Phase 2 Randomized to receive XL184 alone or erlotinib plus XL184
  - 1<sup>ary</sup> endpoint: RR
  - 2<sup>ndary</sup> endpoints: safety, PFS, OS, pharmacodynamics
- Correlative studies
  - EGFR mutational analysis
  - MET amplification
  - Pathway molecule status in tumor and surrogate tissue



# Reversal of Erlotinib Resistance in NSCLC with XL184

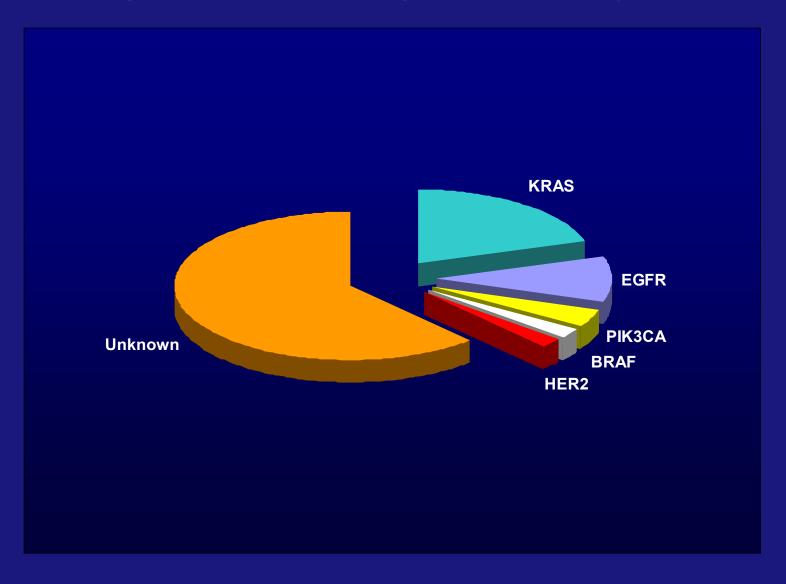
HCC827GR6 xenograft tumors are resistant to gefitinib and erlotinib due to amplification of MET



Data courtesy of J. Engelman, E. Lifshits, and P. Janne, Dana Farber Cancer Inst.

Substantial improvement in anti-tumor activity with the combination of XL184 and erlotinib

## "The Lung Cancer Oncogenome Project"





## XL647 – Development Plan in NSCLC

### Potential to address 1st, 2nd & 3rd line of therapy

- Clinical activity in 1<sup>st</sup> line NSCLC
- Comparison to erlotinib
- Preclinical activity against resistance conveying EGFR T790M mutation; Clinical evaluation ongoing

### Opportunity for combination with targeted agents

- PI3K inhibitors (XL147, XL765)
- Met inhibitors (XL880, XL184)
- Raf inhibitors (sorafenib, XL281)

### Anticipate initiation of pivotal studies in H1 2008



# Relapse with documented progressive disease after benefit from erlotinib or gefitinib

- 50% of patients are expected to show T790M mutation
  - Patient population with unmet medical need
- Experimental therapy (Phase 1 with new agents)
- Palliative (best supportive care)

Demonstration of clinical benefit: Improved overall survival, progression free survival and response rate compared to best supportive care



### 2<sup>nd</sup>/3<sup>rd</sup> line NSCLC

### Erlotinib as 2<sup>nd</sup> or 3<sup>rd</sup> line treatment

Overall survival 6.7 months (Shepherd et al, 2005)

### XL647 may offer advantages

- Target profile: EGFR, HER2, VEGFR2
- Active against T790M
- Tolerability

# Possible opportunities for XL647 in a randomized controlled setting

- Improved overall survival
- Improved tolerability



### 1<sup>st</sup> line NSCLC

XL647 is active in the first-line setting in clinically selected patients (XL647-201)

- Response rate of about 30% (10/34)
- Clinical benefit of 68% (including PR; and SD and on study for ≥ 3 months)
- Time on study ranging up to 12+ months
- PFS and OS data are maturing

The response rate in unselected patients to first-line doublet chemotherapy is 17-21% (Schiller, 2002)

The response rate to first-line doublet chemotherapy in subjects with EGFR mutations and EGFR wild type is similar (Lee, 2006; Hotta, 2007; TRIBUTE)

Single agent XL647 may offer the opportunity for

- Improved efficacy
- Improved tolerability

### XL647 – Broad Development Beyond NSCLC



# Target spectrum and preclinical activity support broad development in a variety of indications:

### **Breast Cancer**

Trastuzumab and lapatinib resistant population, single agent (phase 2)

#### Head and Neck Cancer

Single agent, or combined with radiotherapy

### Glioblastoma

Single agent and combination with PI3K inhibitors

### Combination with targeted agents

- PI3K inhibitors (XL147, XL765)
- Met inhibitors (XL880, XL184)
- Raf inhibitors (sorafenib, XL281)

# XL184 to Target Multiple Kinases in the Treatment of Metastatic Thyroid Carcinoma

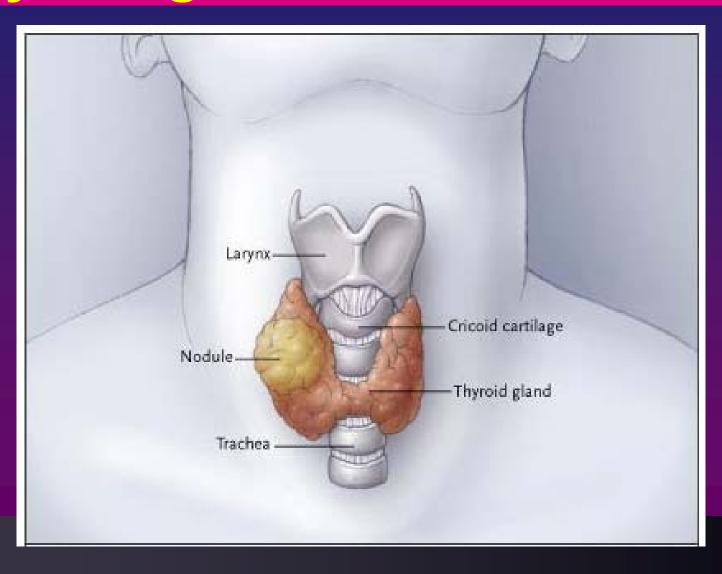


Steven I. Sherman, M.D.

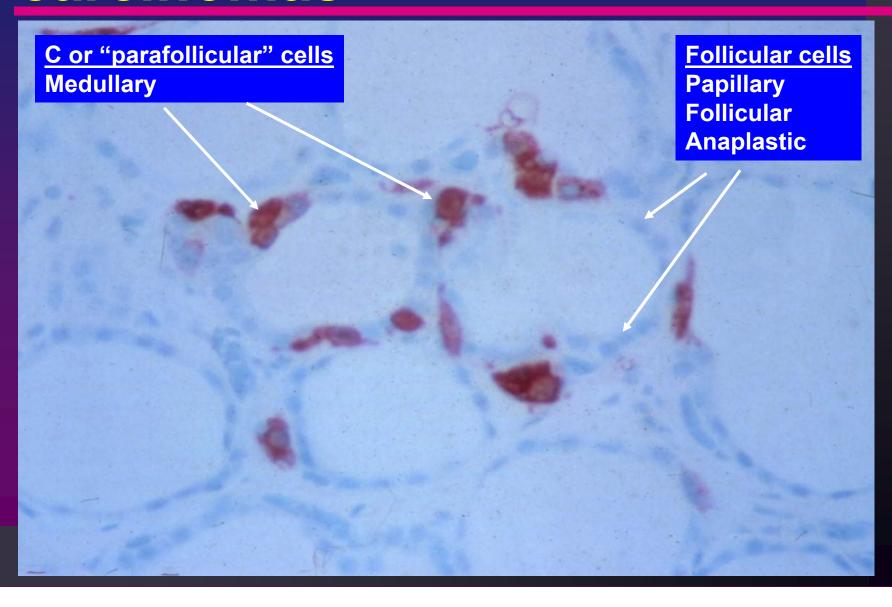
Department of Endocrine Neoplasia and
Hormonal Disorders



### Thyroid gland and nodule



# Cells of origin of thyroid carcinomas



### Thyroid carcinoma: 2007 estimates

Incidence

Differentiated (DTC) 95%

> Medullary (MTC)

> Anaplastic 1%

www.cancer.org (as of 2/2007)

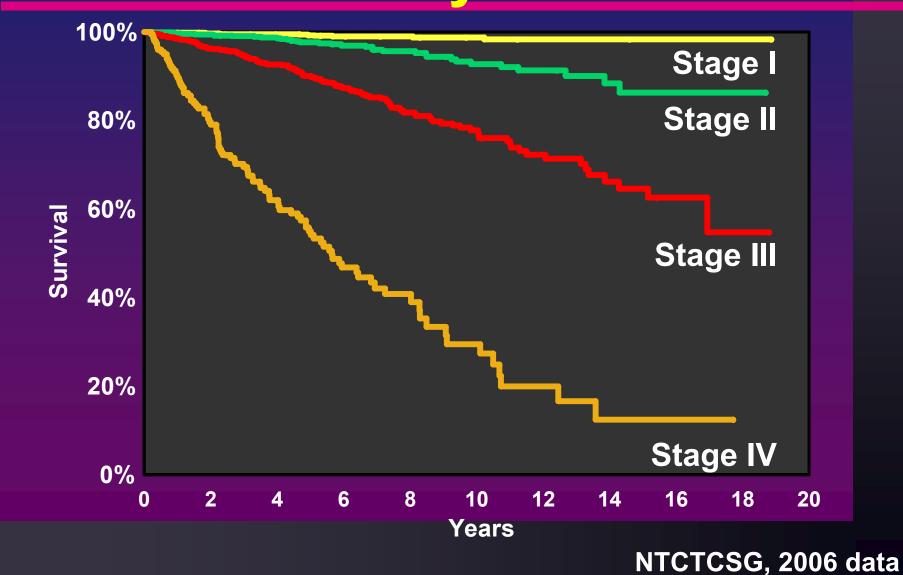
33,550

4-5%

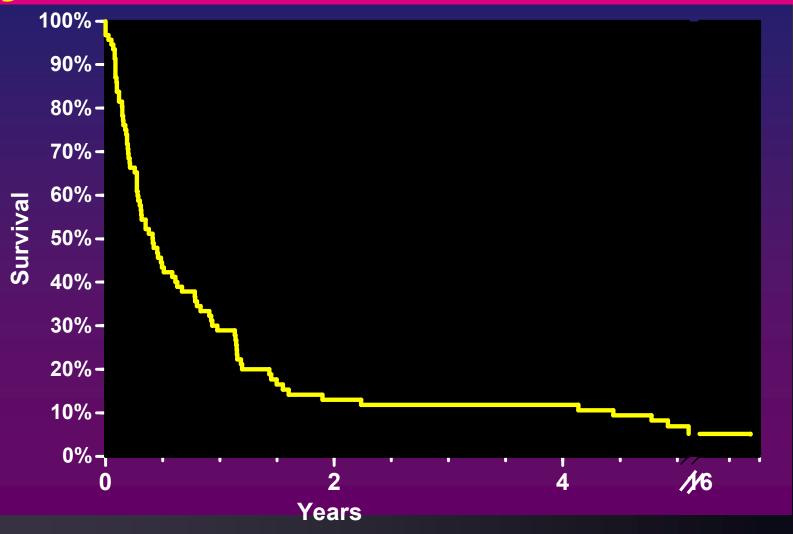
- Prevalence (1/2004) 366,000
- 4.8% of all female cancer survivors!

www.seer.cancer.gov (as of 11/2007)

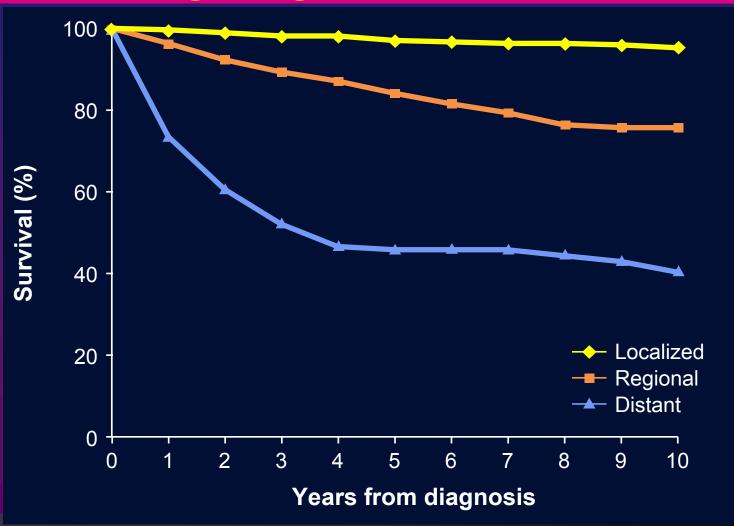
## Poor outcomes in metastatic differentiated thyroid cancers



### Worst outcomes in anaplastic thyroid carcinoma



## Poor outcomes in metastatic medullary thyroid carcinoma

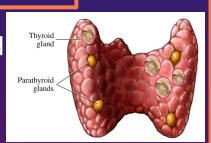


# Features of familial medullary carcinomas by subtype

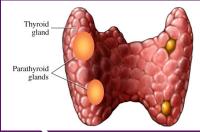
#### Type 2A

**FMTC** 

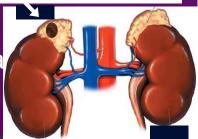
Medullary thyroid carcinoma >90%



Parathyroid hyperplasia 10%-20%

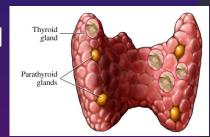


Pheochromocytoma 40%-60%

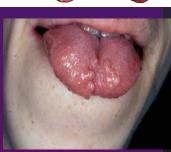


#### Type 2B

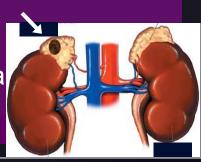
Medullary thyroid carcinoma >98%



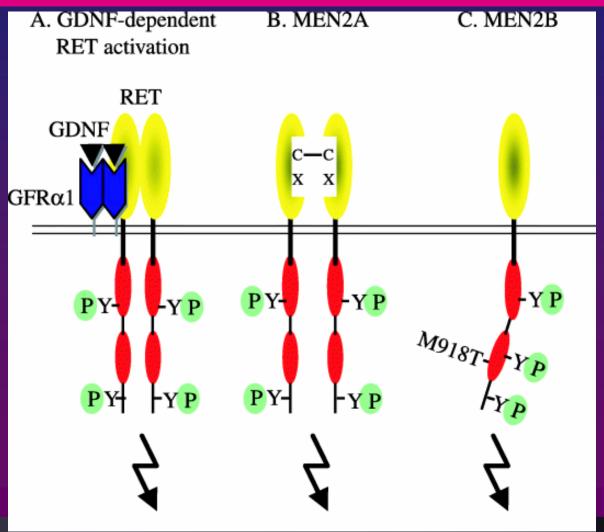
Mucosal neuromas >98%



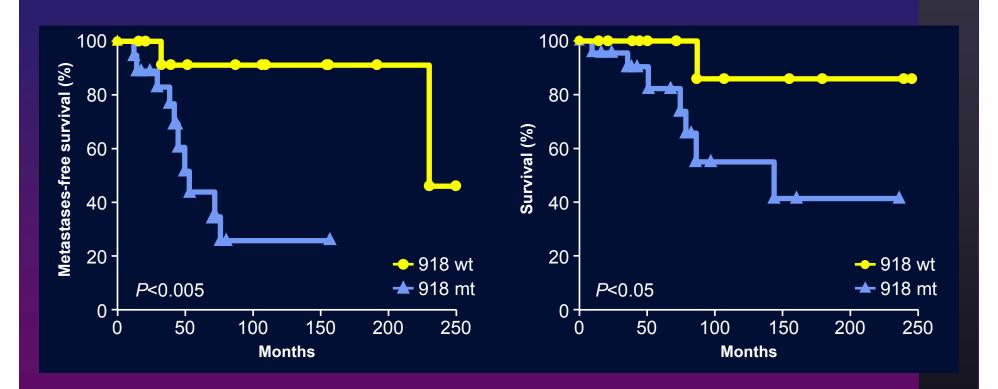
Pheochromocytoma 40%-60%



### RET mutations in medullary thyroid carcinoma



# Role of somatic ret 918 mutation in prognosis

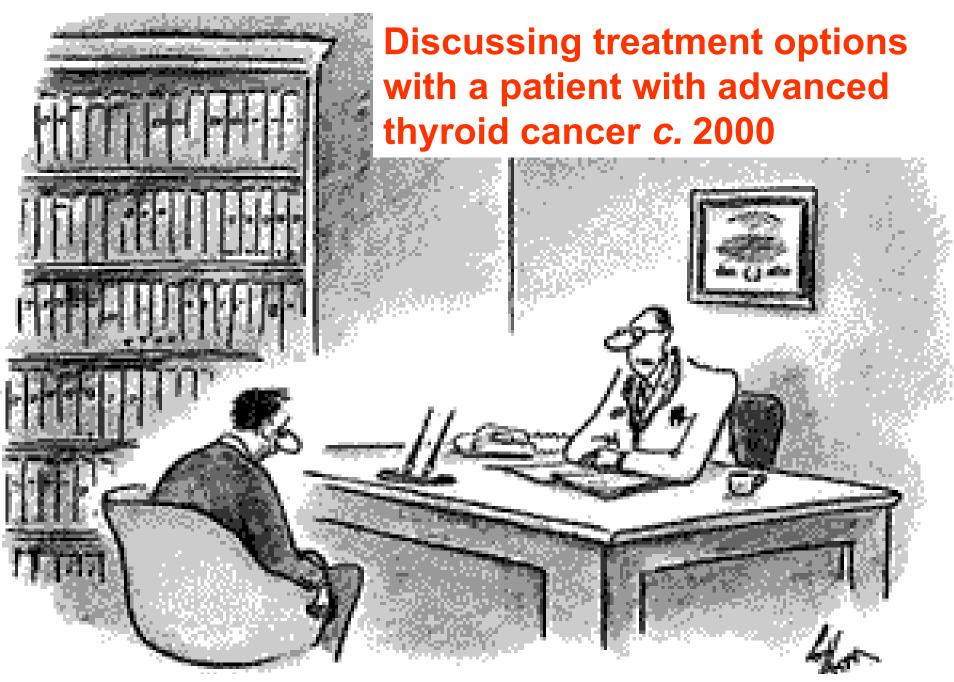


Ret 918 mutation found uniformly in 38%, heterogeneously in 24%

Schilling, et al., 2001

### Treating metastatic thyroid cancer

- Traditional
  - Radioiodine (DTC only)
  - Thyroid hormone (DTC only)
  - Cytotoxic chemotherapy
  - > Palliation
- New approaches: Targeting molecular abnormalities
  - Etiologic mutations
  - Contributory and secondary mechanisms



"Unfortunately, there's no cure - there's not even a race for a cure!"

### Chemotherapy regimens for medullary carcinoma

	No. o	of pati	ents
Schedule	CR	PR	SD + PD
ADM (60 mg/m²/day)	0	1	3
ADM (60 mg/m²/day) + CDDP (40 mg/m²/day)	0	2	4
ADM (15 mg/m²/week)	1	0	0
BLM (Days 1–3: 30 mg/day + ADM (Day 5: 60 mg/m²) + CDDP (Day 5: 60 mg/m²)	0	3	5
ADM (50 mg/m <sup>2</sup> ) + CDDP (60 mg/m <sup>2</sup> ) + VDS (3 mg/m <sup>2</sup> )	0	1	9
CTX (Day 1: 750 mg/m²) + VCR (Day 1: 1.4 mg/m²) + DAC (Days 1–2: 600 mg/m²/day)	0	2	5
DAC (250 mg/m²/day) + 5-FU (450 mg/m²/day)	0	3	2
DAC (200 mg/m²/day) + 5-FU (400 mg/m²/day) $\rightarrow$ STZ (500 mg/m²/day) + 5-FU (400 mg/m²/day)	0	3	17
DHAD (12 mg/m²/day)	0	1	4
TAM (20 mg x 2/day)	0	0	2

ADM: adriamycin; CDDP: cisplatin; BLM: bleomicin; VDS: vindesine; CTX: cyclophosphamide; VCR: vincristine;

DAC: dacarbazine; 5-FU: 5-fluorouracil; STZ: streptozocin; DHAD: mitoxantrone; TAM: tamoxifen; CR: complete remission; PR: partial remission; SD + PD: stable disease + progressive disease

Combined CR + PR: 25%



**Thyroid Carcinoma** 

#### **Medullary Carcinoma**

Clinical Practice Guidelines in Oncology - v.2.2007

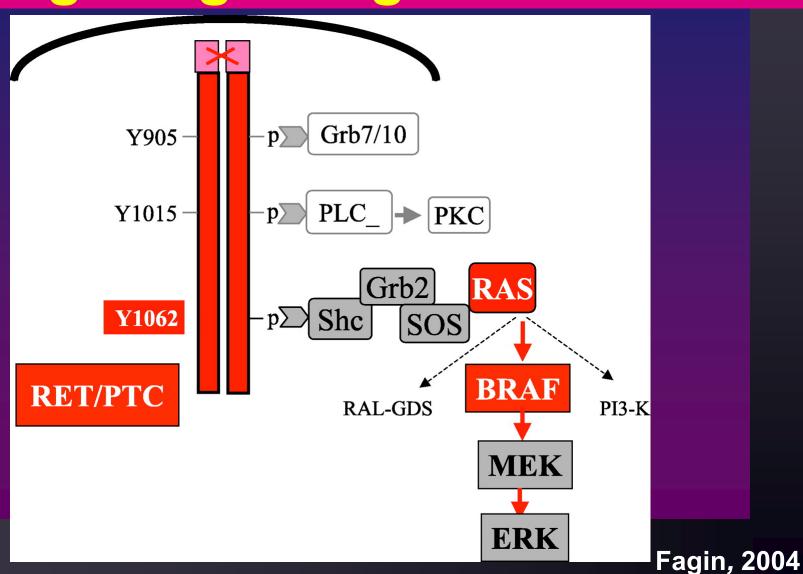
#### RECURRENT OR PERSISTENT DISEASE

Surgical resection ± postoperative RT Locoregional RT, if symptomatic progressive disease or unresectable Consider palliative resection, ablation (eg, Symptomatic, radiofrequency [RFA], distant embolization or other metastases regional therapy) or other regional treatment Observe Asymptomatic, Consider resection, if distant possible, or ablation metastases (eg, RFA, embolization or other regional therapy) especially if progressive disease

 Clinical trial (preferred) RT for focal symptoms or Disseminated **DTIC-based** → symptomatic chemotherapy disease Consider bisphosphonate therapy for bone metastases Best Supportive Care

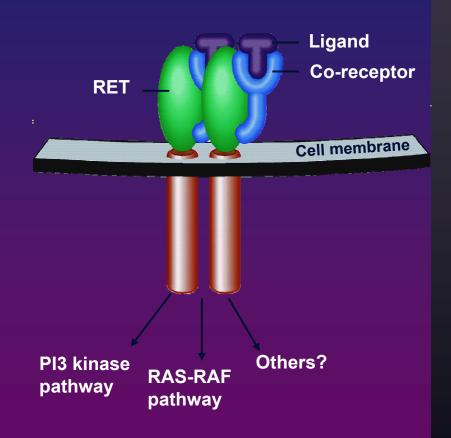
MEDU-5

## Signaling pathways in DTC: Etiologic signaling activation

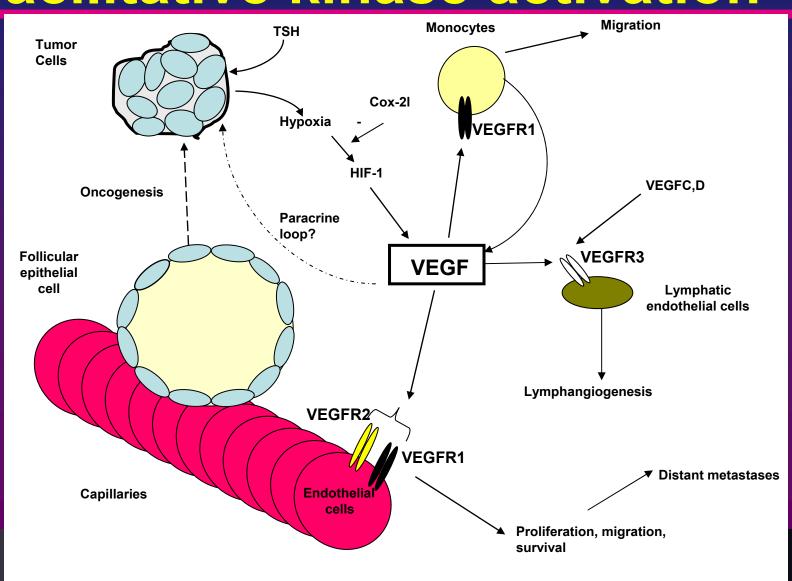


# Signaling pathways in MTC: Etiologic signaling activation

- Inhibition of tumor cell growth:
  - Transduction pathways activated by RET
  - Other targets, pathways?
- Inhibition of angiogenesis:
  - > VEGF, VEGFR



## Signaling pathways: Facilitative kinase activation

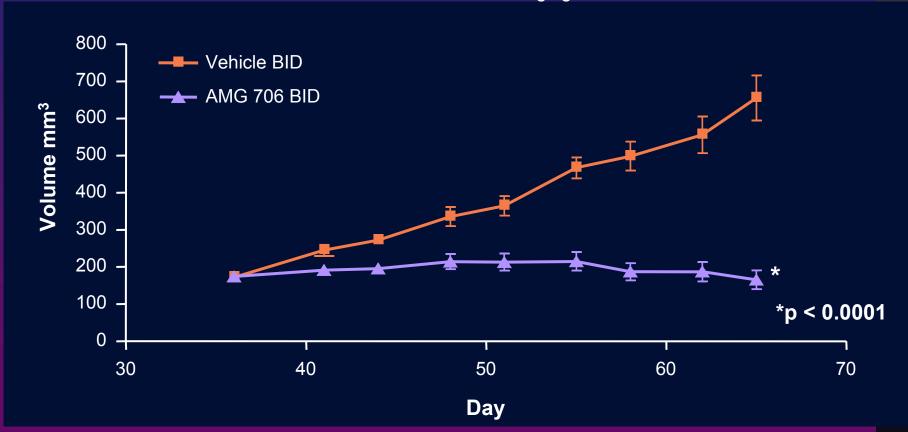


### Kinase inhibitor activities relevant to thyroid carcinomas

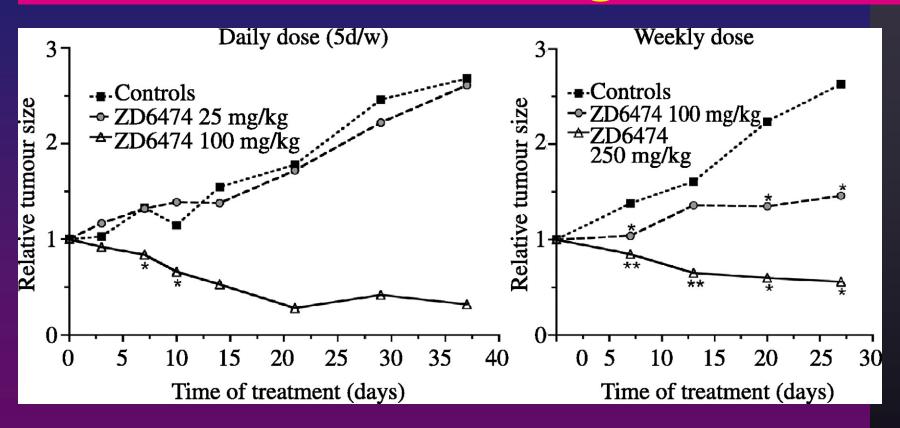
Drug	IC <sub>50</sub> (nm)						
	VEGFR1	VEGFR2	VEGFR3	RET	RET/PTC3	RAF	C-met
Axitinib	1.2	0.25	0.29	-	-	-	-
Vandetanib	1600	40	110	100	50-100	-	-
Motesanib diphosphate	2	3	6	59	-	-	-
Sunitinib	2	9	17	41	224	-	4000
Sorafinib	-	90	20	49	50	6	>105

## Motesanib inhibits growth of MTC cell line xenografts in mice

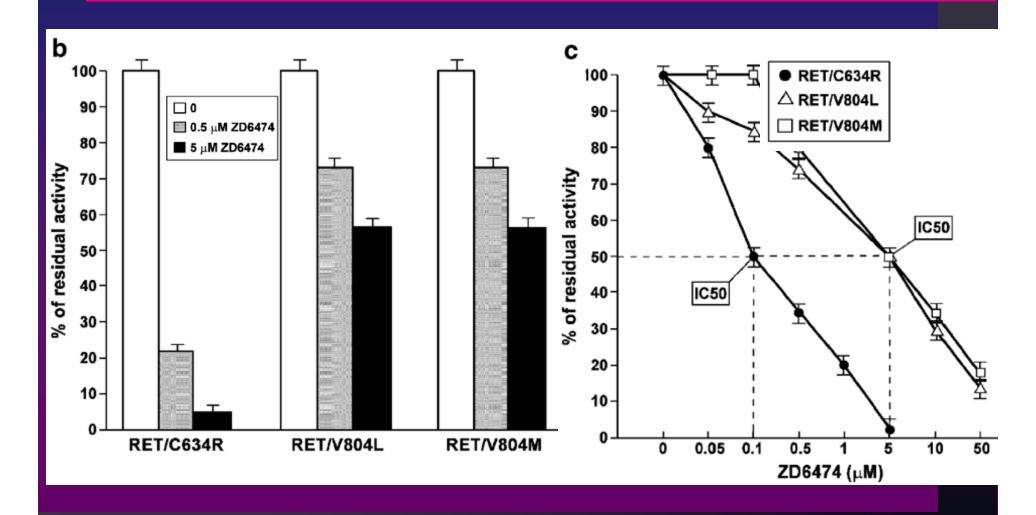




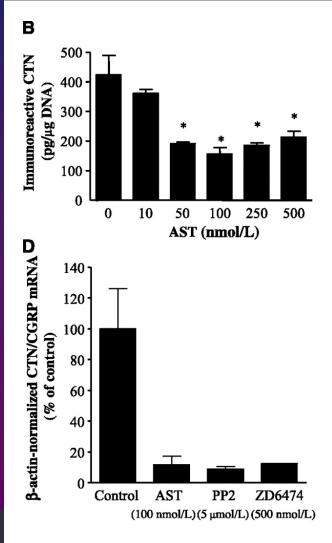
## Vandetanib inhibition of growth of human MTC xenograft



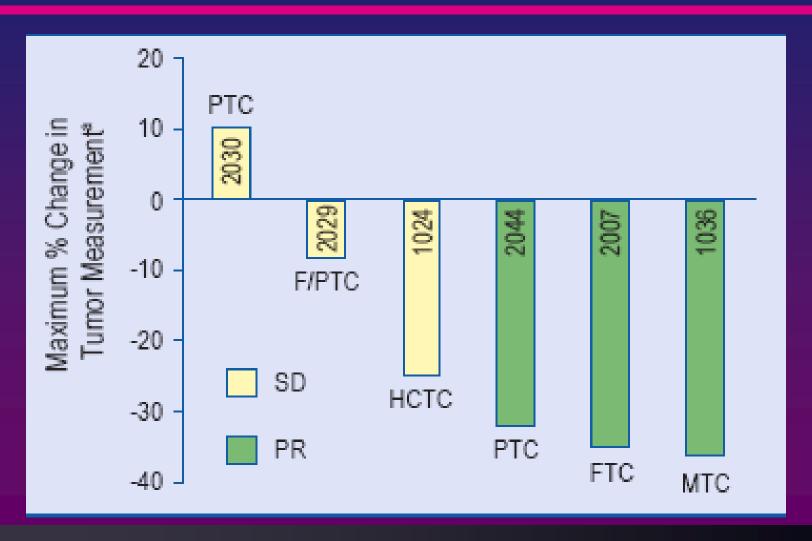
### RET V804 mutations confer resistance to vandetanib



# RET inhibition may directly affect CT gene transcription



### Motesanib diphosphate Phase I trial



### Phase II trial of motesanib in thyroid carcinoma

### **Objectives**

- 1. Determine response rates (CR + PR) to motesanib in 2 separate strata:
  - Progressive DTC
  - Progressive or symptomatic MTC
- 2. Determine duration of response, tumorrelated symptoms (MTC), and progression-free survival

Schlumberger, et al., EndoSoc 2007; Sherman, et al., in press

## Motesanib: Phase II trial for metastatic MTC

	N (%)
Complete response	0 (0%)
Partial response	2 (2%)
Stable disease	74 (81%)
Clinical benefit (PR + SD ≥24 weeks	45 (49%)
Progressive disease	7 (8%)
Unevaluable/not done	8 (9%)

Schlumberger, et al., EndoSoc 2007

# Motesanib: Phase II trial for progressive & metastatic DTC

	N (%)
Complete response	0 (0%)
Partial response	13 (14%)
Stable disease	62 (67%)
Clinical benefit (PR + SD ≥24 weeks)	46 (49%)
Progressive disease	7 (8%)
Unevaluable / not done	11 (12%)

Sherman, et al., in press

## Phase II trial of vandetanib in medullary thyroid carcinoma

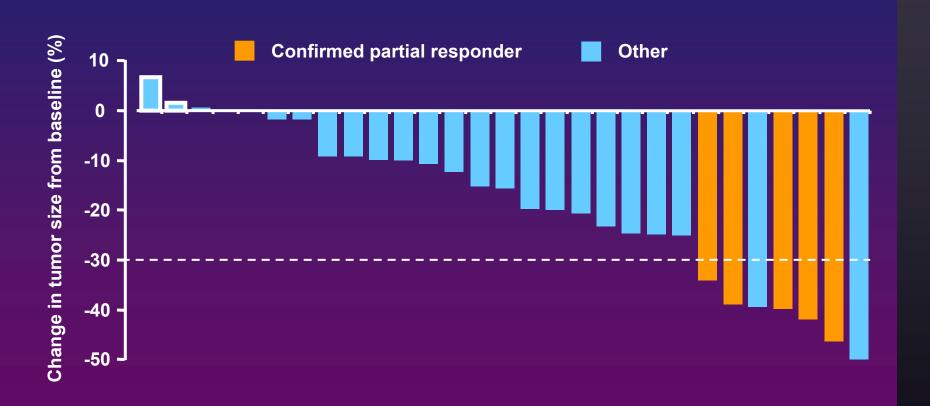
### **Objective**

Determine response rates (CR + PR) to vandetanib in patients with metastatic inherited MTC

### Vandetanib: Phase II trial for metastatic inherited MTC

	N (%)
Complete response	0 (0%)
Partial response	5 (17%)
Stable disease	22 (73%)
Clinical benefit (PR + SD ≥24 weeks	15 (50%)
Progressive disease	2 (7%)
Unevaluable/not done	1 (3%)

# Best objective tumor response per RECIST





#### XL184

### XL184 is a potent inhibitor of MET, VEGFR2 and RET

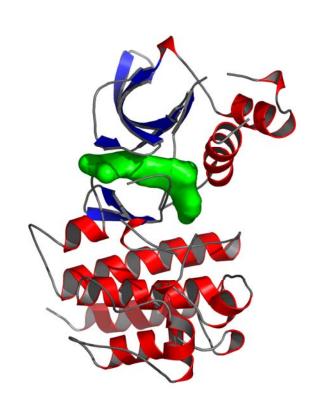
- Low nM activity vs. KIT, Flt3
- Lacks the PDGFRβ activity of XL880

#### XL184 has excellent pharmacokinetic properties

High exposure and excellent bioavailability

### Extremely potent & efficacious in xenograft models

- Potent anti-tumor activity in broad array of tumor xenografts
- Single dose efficacy
- Excellent tolerability in preclinical models



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## Kinase inhibitor activities relevant to thyroid carcinomas

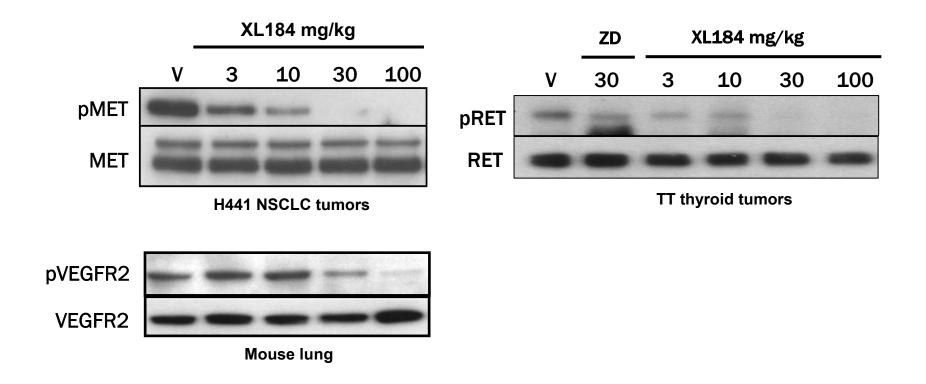
Drug	IC <sub>50</sub> (nm)						
	VEGFR1	VEGFR2	VEGFR3	RET	RET/PTC3	RAF	C-met
Axitinib	1.2	0.25	0.29	-	-	-	-
Vandetanib	1600	40	110	100	50-100	-	-
Motesanib diphosphate	2	3	6	59	-	-	-
Sunitinib	2	9	17	41	224	-	4000
Sorafinib	-	90	20	49	50	6	>105
XL184	-	0.035	-	4	-	-	1.8



### XL184 PD Activity

### XL184 is a balanced inhibitor of MET, VEGFR2 and RET in preclinical tumor models

Biochemical potencies: MET 1.8 nM, VEGFR2 0.035 nM, RET 4 nM, PDFGRβ 234 nM



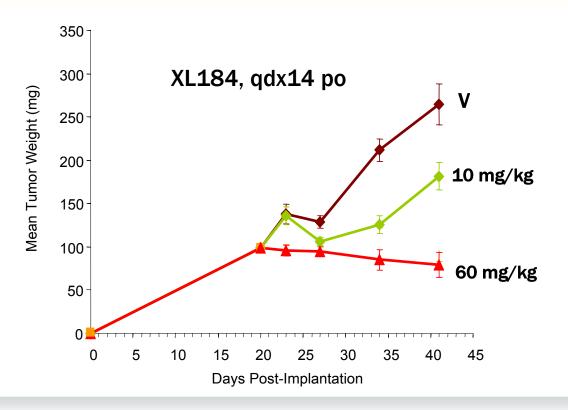
R&D Day 5 December 2007 103

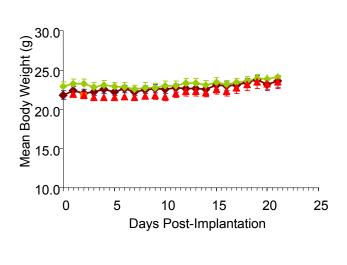


### XL184 Inhibits the Growth of TT Xenograft Tumors

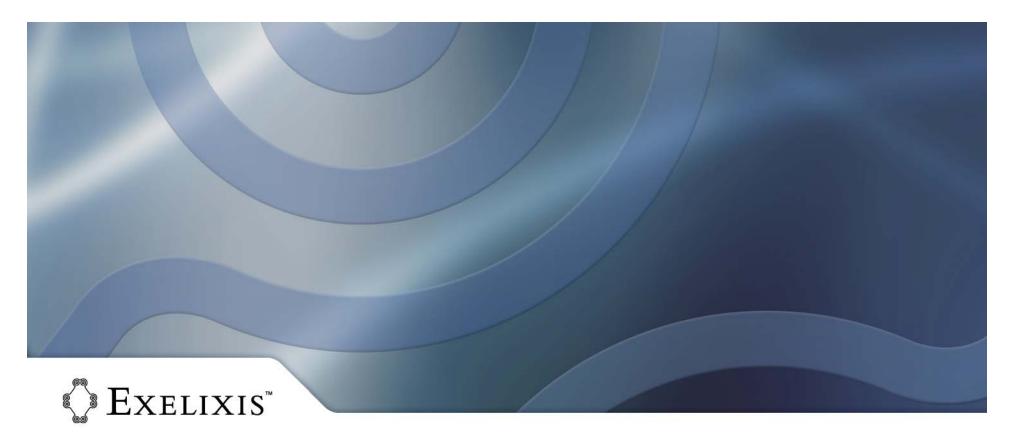
### Daily oral dosing of XL184 causes substantial inhibition of TT tumor growth

- TT cells are derived from a thyroid tumor and carry an activating mutation in RET
- Dose response parallels dose response for inhibition of pRET in TT tumors
- Well tolerated no body weight loss





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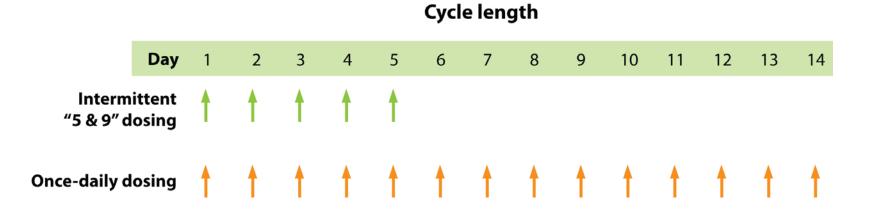
A Phase 1 Dose-Escalation Study of the Safety and Pharmacokinetics (PK) of XL184, a VEGFR and MET Kinase Inhibitor, Administered Orally to Patients (Pts) With Advanced Malignancies

### EXELIXIS"

### Phase 1 Study Evaluating Intermittent and Daily Dosing

#### Objectives:

Evaluate safety, pharmacokinetics, pharmacodynamics and preliminary anti-tumor activity of XL184 in patients with advanced malignancies



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#### **Baseline Characteristics**

Characteristic	No. of patients (N = 44°)
Median age (range), years	54 (29-89)
Gender (male/female) <sup>a</sup>	33/11
Race <sup>b</sup>	
Caucasian	35
Black	4
Asian	2
Other	3
Tumor diagnosis/primary site <sup>a</sup>	
Medullary thyroid	10
Colorectal	5
Carcinoid, melanoma, sarcoma	3 each
Papillary renal cell, parotid, pancreatic, gastric, mesothelioma	2 each
Breast, liver, cutaneous T-cell lymphoma, adeno/GE junction, head and neck, appendiceal, laryngeal, neuroendocrine, SCC/tongue, adenocystic	1 each
ECOG performance status <sup>a</sup>	
)	18
I	23
2	2
Unknown	1
Prior chemotherapy <sup>b</sup>	
Median number of regimens (range)	3 (0-10)





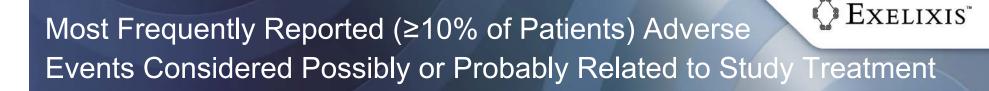
### **Summary of Treatment Status**

Status	Patients, n
On treatment	15
Off treatment	29
Reason for withdrawal <sup>a</sup>	
Progressive disease	24
Investigator decision	2
Other	3

XL184 dose level achieved	Patients, n	Months on study
0.08 mg/kg	4	1-9
0.16 mg/kg	4	1-20+ (2 active)
0.32 mg/kg	4	1-4
0.64 mg/kg	3	1-4
1.28 mg/kg	3	2-13+ (1 active)
2.56 mg/kg	3	3-7
5.12 mg/kg	5	1-9+ (3 active)
7.68 mg/kg	3	1-4
11.52 mg/kg	3	1-5
175 mg daily	3	1-3+ (2 active)
265 mg daily	9	0-1+(8 active)

<sup>a</sup>Data available for 38 patients reported in the September 4, 2007, data transfer. This includes patients with date of withdrawal. Data are preliminary because study is ongoing.

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	n (%) of patients (N = 38)		
Adverse event <sup>a</sup>	Grade <sup>b</sup> 1 or 2	Grade 3 or 4	
Diarrhea	9 (24)	1 (3)	
Fatigue	6 (16)	1 (3)	
Increased AST	4 (11)	1 (3)	
Mucosal inflammation	5 (13)	0	
Nausea	5 (13)	0	
Increased ALT	3 (8)	1 (3)	
Vomiting	4 (11)	0	

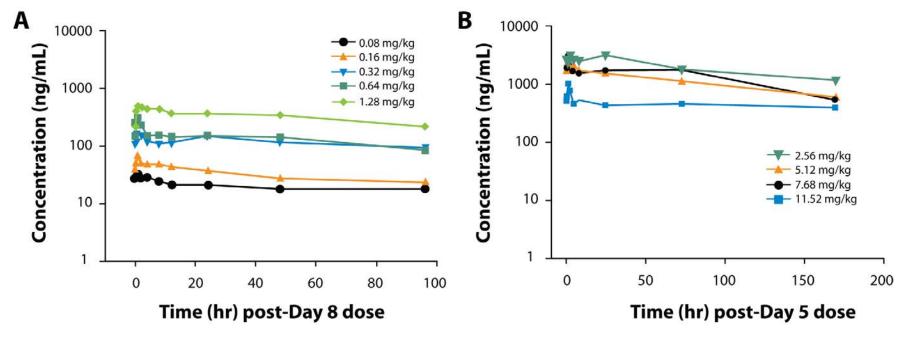
ALT, alanine aminotransferase; AST, aspartate aminotransferase

Adverse event data include 1 patient who elected to withdraw from the study and later re-enrolled under a unique patient study number.

<sup>&</sup>lt;sup>b</sup>According to the Common Terminology Criteria for Adverse Events Version 3.0.

## Mean XL184 Plasma Concentration-Time Profiles





Plasma samples were analyzed for XL184 using a validated liquid chromatography method with tandem mass spectrometric detection method. The lower limit of quantitation for XL184 in plasma was 0.5 ng/mL based on a plasma volume of 50 µL.

PK data include 1 patient who elected to withdraw from the study and later re-enrolled under a unique patient study number.

Data represent mean values following 5 consecutive daily doses of XL184. (A) C1-C5; (B) C6-C9.



## Response to Treatment

Response	Patients, n	Primary cancer diagnosis	Duration of stable disease (≥3 months)
Confirmed partial response	2	Medullary thyroid	
Unconfirmed partial response	2	Medullary thyroid, Neuroendocrine	
Stable disease	1	Cutaneous T-cell lymphoma	20+
	2	Carcinoid	8, 19+
	1	Parotid	4
	3	Colorectal	3, 7, 7
	1	Appendiceal	4
	2	Medullary thyroid	9+, 13+
	2	Sarcoma	6, 6
	1	Papillary renal cell	9
	1	Melanoma	5+
	1	Mesothelioma	3+
Progressive disease	21	Various	
Unevaluable/premature	8	Various	



## Response of MTC patients to XL184

#### Patients Have Undergone at Least 1 Evaluation

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5	Patient 6	Patient 7
Months on study	13+	10+	9+	8+	2+	1+	1+
Tumor measurement <sup>a</sup>	-16	-39	NM	-48	-11	-16	-30
Best response	SD	PRc	SD	PRc	TEE	TEE	PRu
Calcitonin	-52	–95 <sup>b</sup>	-91	-89 <sup>b</sup>	-52	-66	-73
CEA	-42	-82	-51	-69	<b>-</b> 5	-10	1

NM, nonmeasurable disease; SD, stable disease (≥3 months); PRc, confirmed partial response; PRu, unconfirmed partial response; TEE, too early to evaluate <sup>a</sup>Measurable lesions were assessed using modified RECIST and percent change from baseline was rounded to the nearest integer. <sup>b</sup>See Figure 5 for scans of these patients.



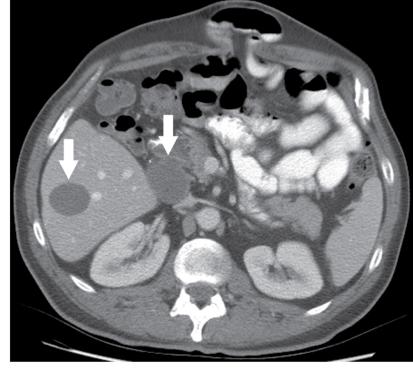
### Scans of a Patient With MTC

#### Patient 2

A



B

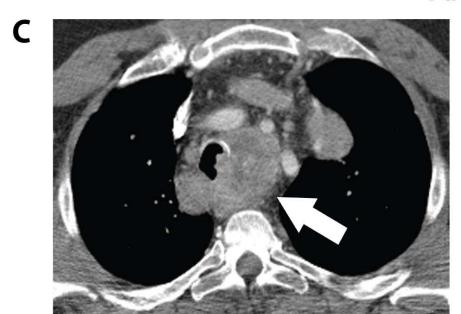


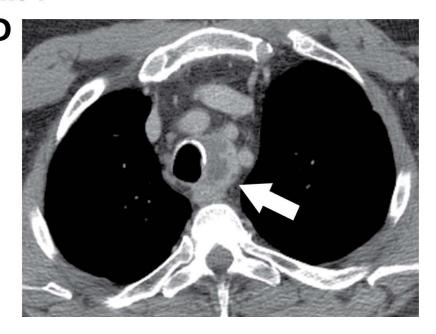
54-year-old male. Liver and periportal nodal metastatic disease at baseline (A) and after 7.5 months (B) of treatment with XL184.



### Scans of a Patient With MTC

#### Patient 4





55-year-old male. Metastatic paratracheal nodal disease involving the trachea at baseline (C) and after 4 months (D) of treatment with XL184.



#### Conclusions XL184-001

XL184 is generally well tolerated at doses tested to date.

Preliminary analysis of pharmacodynamic biomarkers in plasma shows changes in VEGF- A, sVEGFR2, and PIGF consistent with effects observed with other anti-angiogenic agents.

Antitumor activity has been observed at doses not associated with significant toxicity and in patients with various cancers to date:

4 PRs (2 PRc, 2 PRu) and 15 patients with stable disease (SD)
 >3 months (3+ to 20+ months

All 7 patients with MTC had signs of anti-tumor activity:

- 6 pts had tumor shrinkage
- 3 pts had PRs (2 confirmed)
- 2 pts had SD >9 months



## XL184 Development Plans - MTC

Anti-tumor activity in Phase 1 – medullary thyroid cancer

Expanded cohort of MTC patients (n = 20) in Phase 1 at the maximum tolerated dose

#### **Current Standard of Care**

 Surgery is current treatment for localized disease – no standard treatment for metastatic disease

Possible opportunity for demonstrating clinical benefit of XL184 in comparison to best supportive care

Progression free survival



### XL184 Phase 2 Program

#### Glioblastoma Multiforme

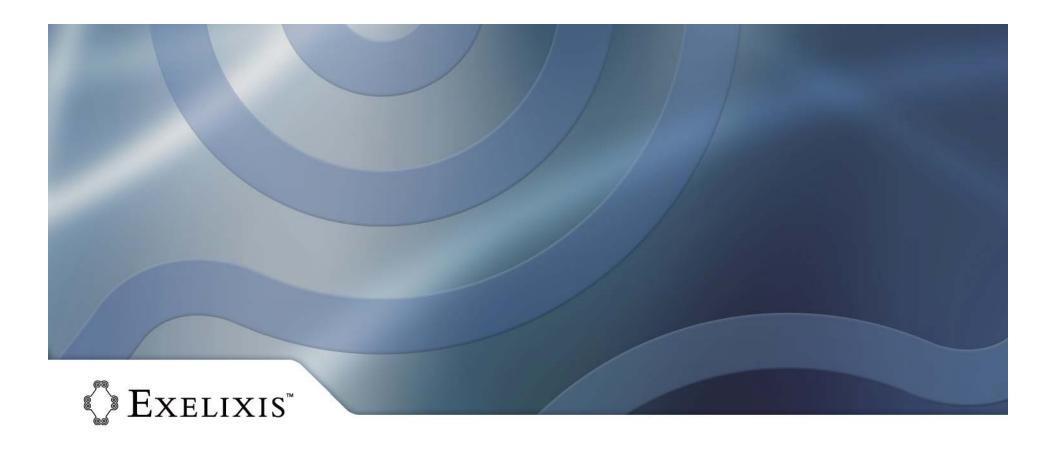
- Encouraging activity of targeting angiogenesis in GBM
- MET and KIT are implicated in GBM
- Phase 2 study to start at MTD

#### **NSCLC**

- MET amplification plays an important role in resistance development
- Phase 1 /2 study initiated
- Combination of EGFR inhibitor and XL184 vs. XL184 alone

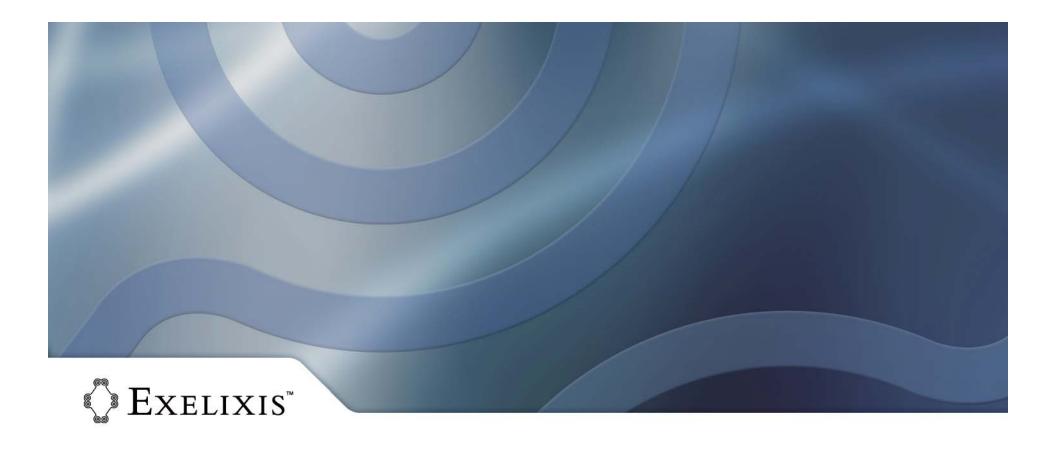
#### Variety of other tumors potentially responsive to XL184

Including breast, colon, and liver cancer, and other tumor types



## Clinical Q&A Panel

Gisela Schwab, MD, Exelixis Vincent Miller, MD, Memorial Sloan-Kettering Cancer Center Steven Sherman, MD, MD Anderson Cancer Center



## Break



## R&D Overview Michael Morrissey, President R&D

## Exelixis Pipeline Update – 2008

Advancement: XL compounds moving into Phase 2 & 3

Attrition: XL compounds discontinued

Addition: New XL DCs and INDs

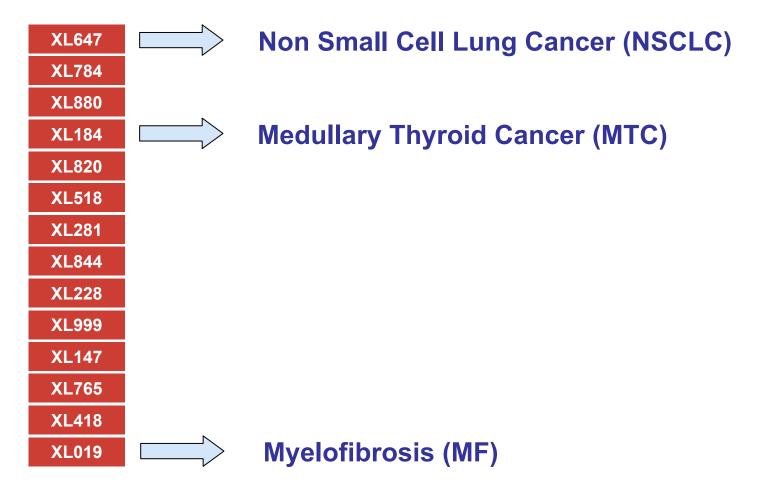
#### Key components of portfolio

- Data driven decisions
- Maximize success not minimize failure
- Product opportunities:
  - Early market entry in niche indications
  - Enhanced commercial potential with broad list of potential tumor types and indications

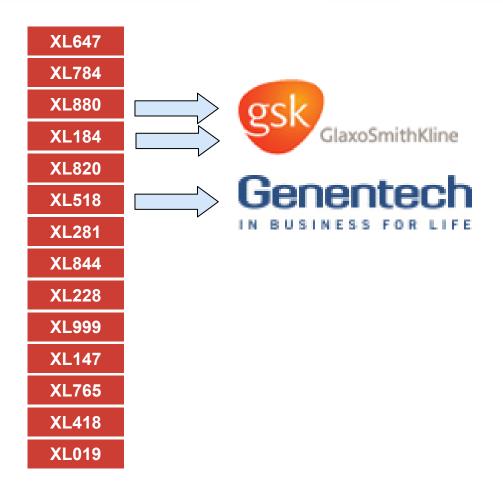
## Exelixis Pipeline - 2007

	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2,	VEGFR2 – NSC	LC, Breast, GBI	Л, H&N		
XL784	MMP2, ADAM	10 - Diabetic N	ephropathy			
XL880	MET, VEGFR2	- Papillary Rer	nal Cell, Gastric,	H&N		
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2					
XL228	IGF1R, ABL, S	RC				
XL999	VEGFR2, PDG	FR, FGFR1/3, F	LT3 - NSCLC			
XL147	PI3K					
XL765	PI3K & mTOR					
XL418	AKT & S6K					
XL019	JAK2					

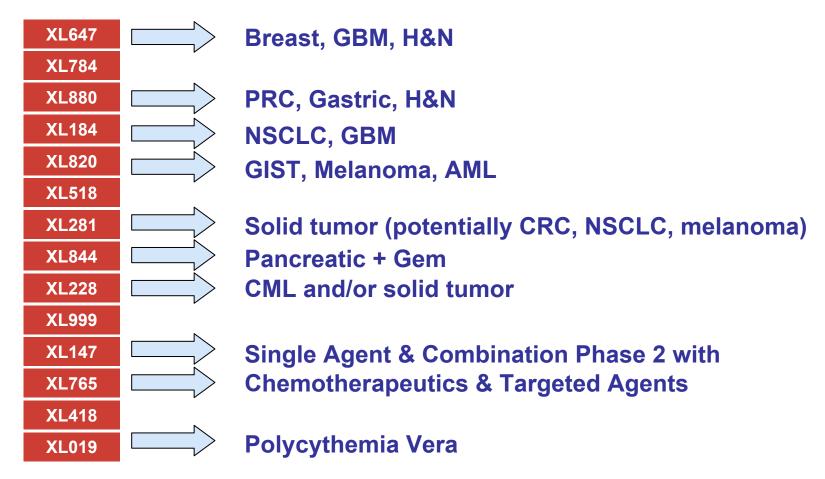
## Exelixis Development Portfolio in 2008: Potential Pivotal Trials



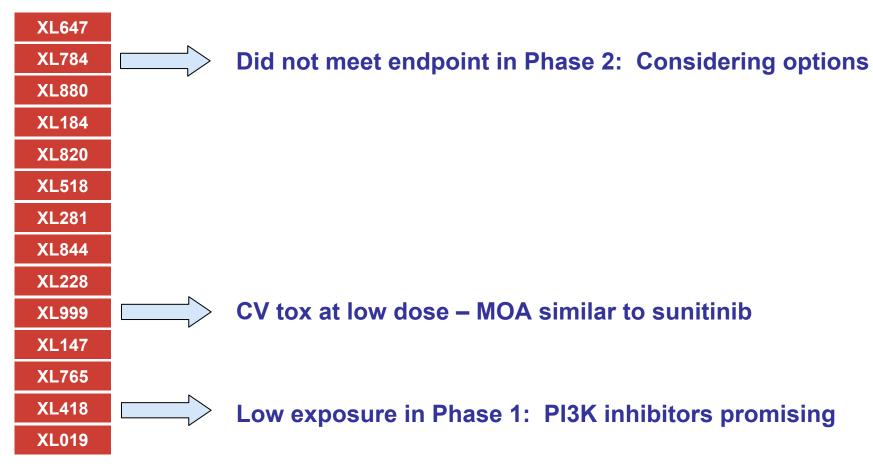
# Exelixis Development Portfolio in 2008: Potential Opt-in Compounds



# Exelixis Development Portfolio in 2008: Potential Phase 2 Compounds



# Exelixis Development Portfolio in 2008: Compounds Discontinued at YE2007



# Exelixis Development Portfolio in 2008: New Projected DCs and INDs

	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL139	НН					
XL888	HSP90					
XL652	LXR (with BM	IS)				
XL335	FXR (with Wy	veth)				
XL550	MR (with Dai	chi-Sankyo)				
EXEL-5413	Cdc7					
EXEL-5465	<b>11-</b> β <b>-HSD</b>					
EXEL-TOR	Specific mTC	R				

# Exelixis Development Portfolio: Evolving Landscape in 2008

**XL647** 

XL784

**XL880** 

XL184

XL820

**XL518** 

**XL281** 

XL844

**XL228** 

**XL999** 

**XL147** 

**XL765** 

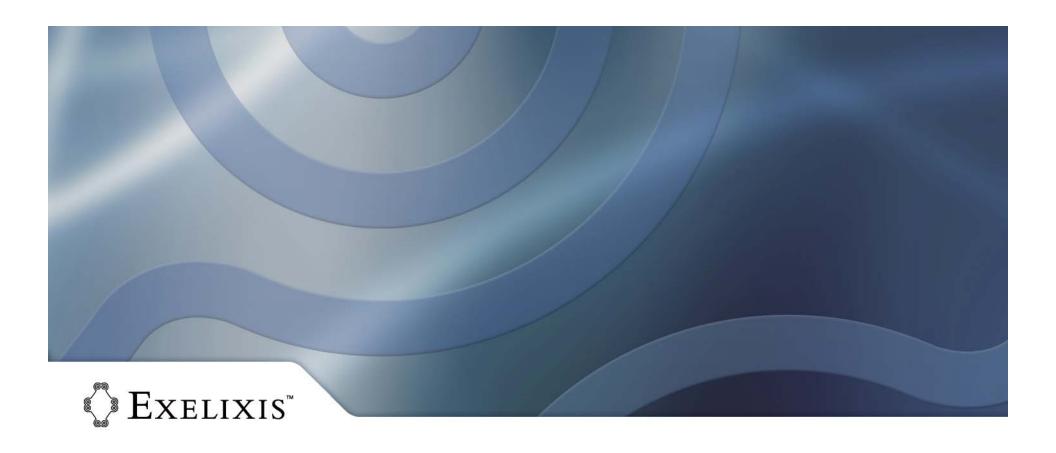
**XL418** 

XL019

**New DCs** 

#### Projected advancement in 2008

- 3 XLs advancing into pivotal trials
- Up to 5 XLs submitted for opt-in decisions
- 9 XLs in phase 2
- 8 XLs complete phase 1
- 2 XLs discontinued, 1 XL on hold
- 3 new XL INDs
- 3 new XL DCs



## Clinical Pipeline Update

Gisela Schwab, MD

SVP and Chief Medical Officer

## **Exelixis Pipeline**



	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2,	VEGFR2 - NSC	LC, Breast, GBM	, H&N		
XL784	MMP2, ADAM	10 - Diabetic Ne	ephropathy			
XL880	MET, VEGFR2	- Papillary Ren	al Cell, Gastric,	H&N		
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2					
XL228	IGF1R, ABL, S	RC				
XL999	VEGFR2, PDG	FR, FGFR1/3, F	LT3 - NSCLC			
XL147	PI3K					
XL765	PI3K & mTOR					
XL418	AKT & S6K					
XL019	JAK2					

The compounds XL647, XL784 and XL999 have been out-licensed to Symphony Evolution, Inc. and are subject to a repurchase option. Pursuant to a product development and commercialization agreement between Exelixis and GlaxoSmithKline, GlaxoSmithKline has the option, after completion of clinical proof-of-concept by Exelixis, to elect to develop up to three compounds in Exelixis' product pipeline, including XL784 and XL999, but excluding XL647, XL518, XL147, XL765 and XL019. Finally, the compound XL518 is the subject of a codevelopment collaboration between Genentech and Exelixis.

## **Exelixis Pipeline**



	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2,	VEGFR2 - NSC	LC, Breast, GBM	I, H&N		
XL784	MMP2, ADAM	10 - Diabetic No	ephropathy			
XL880	MET, VEGFR2	? - Papillary Ren	al Cell, Gastric,	H&N		
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2					
XL228	IGF1R, ABL, S	RC				
XL999	VEGFR2, PDG	FR, FGFR1/3, F	LT3 - NSCLC			
XL147	PI3K					
XL765	PI3K & mTOR					
XL418	AKT & S6K					
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## **Exelixis Pipeline**



	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2,	VEGFR2 – NSCI	_C, Breast, GBM	, H&N		
XL784	MMP2, ADAM	10 - Diabetic Ne	phropathy			
XL880	MET, VEGFR2	- Papillary Ren	al Cell, Gastric,	H&N		
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2					
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XL147	PI3K					
XL765	PI3K & mTOR					
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XL019	JAK2					

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### XL880 Overview

#### Balanced inhibitor of MET and VEGFR2

- Sub-nM inhibition, slow off rate
- Potent inhibition of activated MET mutants

#### Excellent pharmacodynamic properties

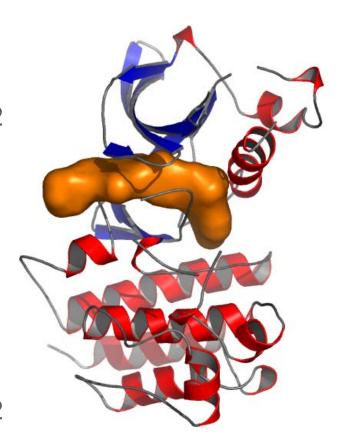
- Potent in vivo inhibition of MET and VEGFR2
- Long duration of action

#### Potent oral activity in multiple xenograft models

- Regression of large tumors
- Intermittent/single dose efficacy

#### Clinical Profile

- Clear anti-tumor activity in Phase 1 and 2
- Generally well tolerated
- Potent in vivo inhibition of MET and VEGFR2 (paired tumor and plasma samples)
- Evaluated intermittent (5&9) and daily dosing





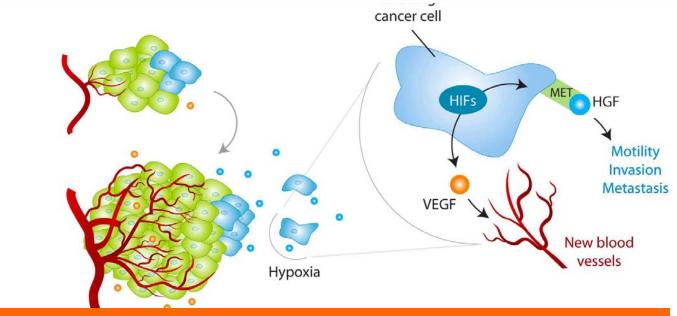
### MET and VEGFR Cooperate to Promote Tumor Survival

#### VEGF induction promotes angiogenesis

Improved tumor blood flow, better oxygenation

#### MET expression promotes survival, migration and invasion

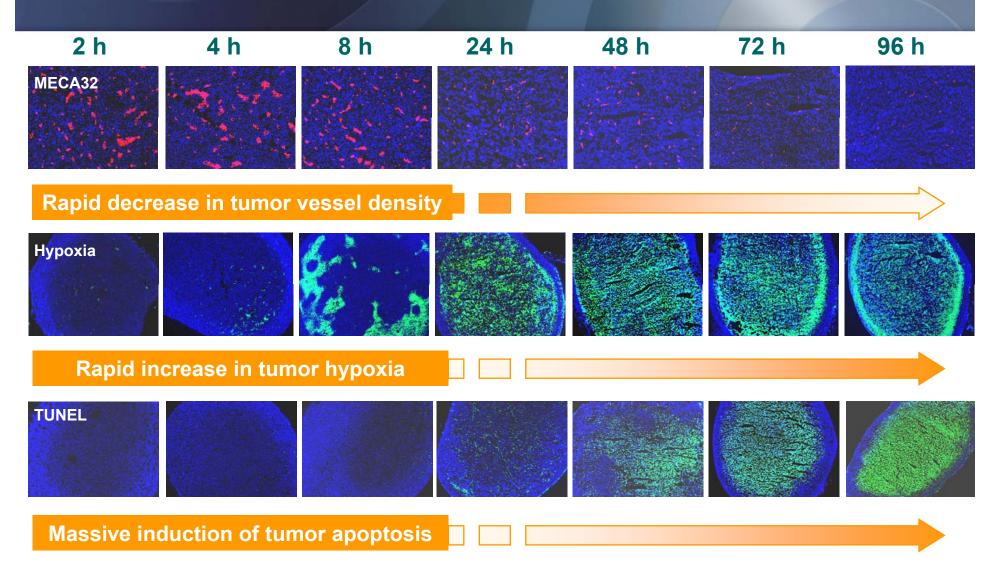
Migration to better oxygenated tissue



Dual inhibition of MET and VEGFR blocks tumor escape mechanisms used to overcome hypoxia



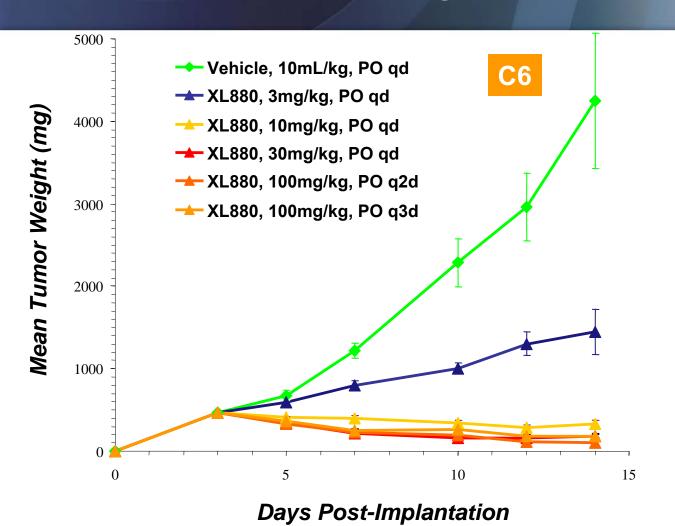
### XL880: Acute Effects on Tumors



MDA-MB-231 xenograft tumors



## XL880 Tumor Xenograft Efficacy



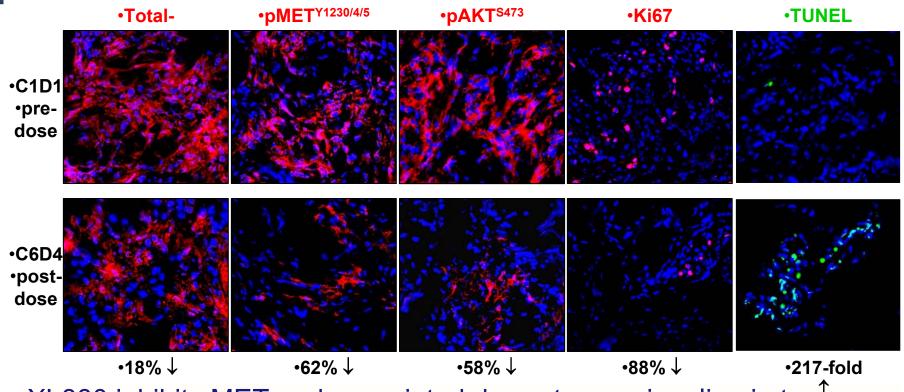
Model	ED50 mg/kg
MBA-231*	4
HT29	7
H441*	7
U87	2
C6*	2

\*Regression of large (0.5-1.0g) tumors

No discernable tumors in some animals

## Biological Activity of XL880 in Patients Phase 1





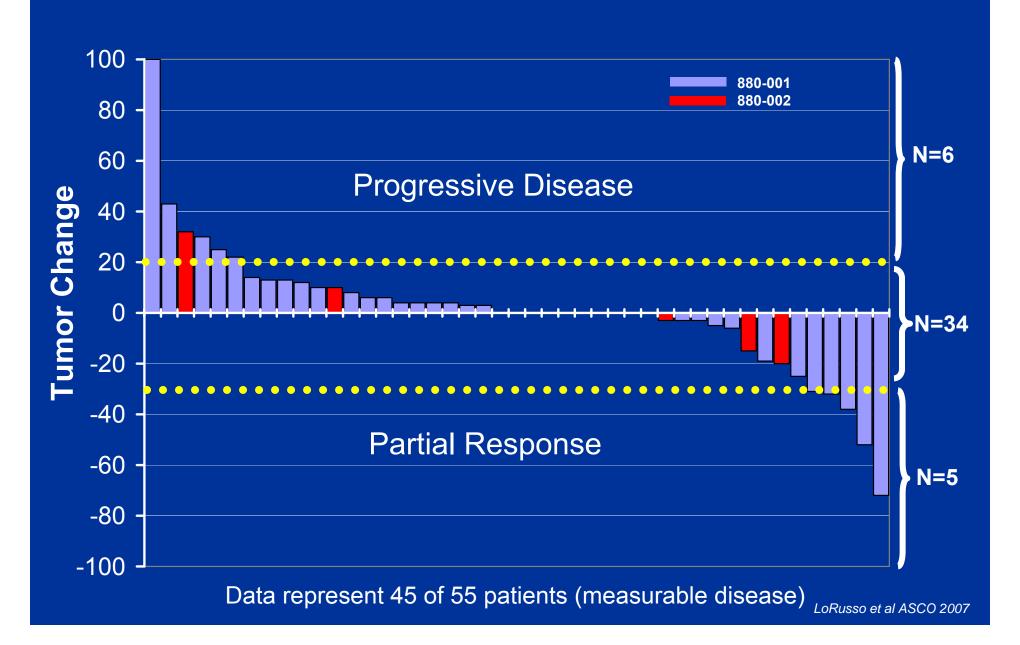
XL880 inhibits MET and associated downstream signaling in tumors

Similar effects observed in tumor biopsies from 4 patients (melanoma, breast, thyroid, and PRC), but not in biopsies of normal skin

Clinical observations of hypertension and proteinuria indicative of VEGFR2 inhibition

LoRusso et al ASCO 2007

## **Best XL880 Tumor Response**



#### **Phase 1 Efficacy Summary of XL880**

Outcome	XL880-001	XL880-002	Total
	Tumor (duration in months)	Tumor (duration in months)	
Partial Response (RECIST)	3 PRC (5, 10+, 23+) MTC (10+) Hurthle Cell Thyroid (11)		5
Minor Response (decrease <30%)	RCC (5) Carcinoid (11) Melanoma (4) CRC (6) MTC (4) Urethral (5)	Nasopharyngeal (6) Papillary thyroid (6+) CRC (3+)	9
Stable Disease (>3 months)	4 CRC (6, 4, 4, 8) Biliary (5) Ovarian (8+)	NSCLC (4) Chondrosarcoma (3) RCC (4+) Mesothelioma (3+) CRC (4)	11

PRC-Papillary Renal Cell, CRC- Colorectal Cancer, RCC- renal cell carcinoma, MTC- Medullary Thyroid carcinoma, (n=55 subjects)



## XL880 - Phase 2 Program

#### Papillary Renal Cell Cancer

- Stratified phase 2 study
  - MET activated or not

#### **Gastric Cancer**

- Poorly differentiated
- 7q31 amplification

#### Head and Neck Cancer

MET often over-expressed

Good rationale for other indications including breast cancer, NSCLC, CRC, pancreatic cancer



## Papillary Renal Cancer

#### Papillary carcinomas represent ~ 15% of all renal cancers

- Typically bi-lateral, multi-focal tumors
- Only treatment is surgery (nephrectomy)

#### Both sporadic and hereditary forms are known

- Hereditary form is caused by germline activating mutations in MET
- Mutations in MET also documented in sporadic form (15%)
- Other genetic abnormalities in MET



## Both VEGF and VEGFR2 mRNAs are upregulated in PRC compared to normal kidney

 VEGF pathway inhibition has shown evidence of activity (sunitinib and sorafenib)



## A Phase 2 Study of the Dual MET/VEGFR2 Inhibitor XL880 in Patients (pts) With Papillary Renal Carcinoma (PRC)

Robert Ross,<sup>1</sup> Ramaprasad Srinivasan,<sup>2</sup> Ulka Vaishampayan,<sup>3</sup> Ronald Bukowski,<sup>4</sup> Jonathan Rosenberg,<sup>5</sup> Peter Eisenberg,<sup>6</sup> Theodore Logan,<sup>7</sup> Sandhya Srinivas,<sup>8</sup> Mark Stein,<sup>9</sup> Thomas Mueller,<sup>10</sup> Harold Keer,<sup>10</sup> on behalf of the XL880-201 Investigators and Exelixis R&D

<sup>1</sup>Dana-Farber Cancer Institute, Boston, MA;
 <sup>2</sup>National Cancer Institute, Bethesda, MD;
 <sup>3</sup>Karmanos Cancer Institute, Detroit, MI;
 <sup>4</sup>The Cleveland Clinic Foundation, Cleveland, OH;
 <sup>5</sup>UCSF Urologic Oncology Clinic, San Francisco, CA;
 <sup>6</sup>California Cancer Care, Greenbrae, CA;
 <sup>7</sup>Indiana University, Indianapolis, IN;
 <sup>8</sup>Stanford University, Stanford, CA;
 <sup>9</sup>The Cancer Institute of NJ, New Brunswick, NJ;
 <sup>10</sup>Exelixis, Inc., South San Francisco, CA

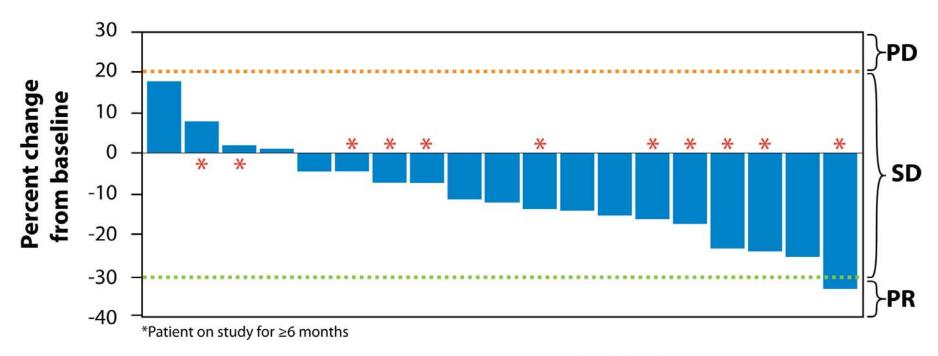


## **Baseline Characteristics**

Characteristic	Value Number of patients (N = 16)
Median age (range), years	56 (25-79)
Sex, M/F (%)	13/3 (81/19)
Race, n (%)	
Black or African-American	1 (6.25)
White	14 (87.5)
Other	1 (6.25)
ECOG status, n (%)	
0	12 (75)
1	4 (25)
Prior cancer therapy alone, n (%)	0
Prior radiation therapy, n (%)	2 (12.5)
No prior therapy reported, n (%)	14 (87.5)



# Tumor Response in the XL880-201 Population



**Best tumor change (RECIST)** 

PD, progressive disease; SD, stable disease; PR, partial response.



# Time on Study and MET Mutation Status (N = 21)<sup>a</sup>

Patient no.	Time on study (months)	Change in tumor (RECIST)	MET status altered	MET sequence (germline)
1	15+	SD (↓23%)	No	WT
2	11+	SD (†8%)	No	WT
3	10+	SD (↓14%)	No	WT
4	9+	SD (↓7%)	No	WT
5	9+	SD (↓4%)	No	WT
6	9	SD (↓7%)	No	WT
7	8+	SD (↓24%)	No	WT
8	8+	SD (↑2%)	No	WT
9	8+	PR (↓33%)	No	WT
10	7	SD (↓16%)	No	WT
11	6+	SD (↓17%)	No	WT
12	6	SD (↑1%)	No	WT
13	4+	SD (↓14%)	Yes	H1094R (KD) het
14	4	SD (↓11%)	No	WT
15	4	SD (↓12%)	No	WT
16	3+	N/A	Yes	H1094R (KD) het
17	3	SD (↓25%)	Yes Tumor somatic mutation	WT
18	3	SD (↓4%)	No	WT
19	3	SD (↑18%)	No WT	
20	2+	SD (↓15%)	Yes	H1094R (KD) het
21	<1+	TEE	Yes	H1094R (KD) het
+ indicates active on	study treatment			-

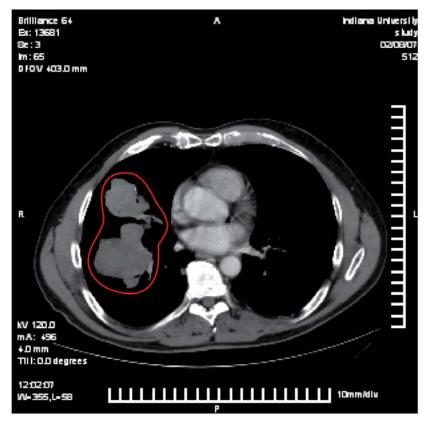
<sup>+</sup> indicates active on study treatment

SD, stable disease; TEE, too early to evaluate; WT, wild type; PR, partial response

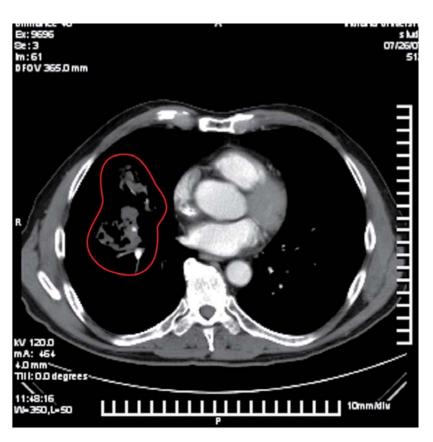
<sup>&</sup>lt;sup>a</sup>As of October 10, 2007.



# Representative CT Scanning Images of the Patient Who Achieved Partial Response



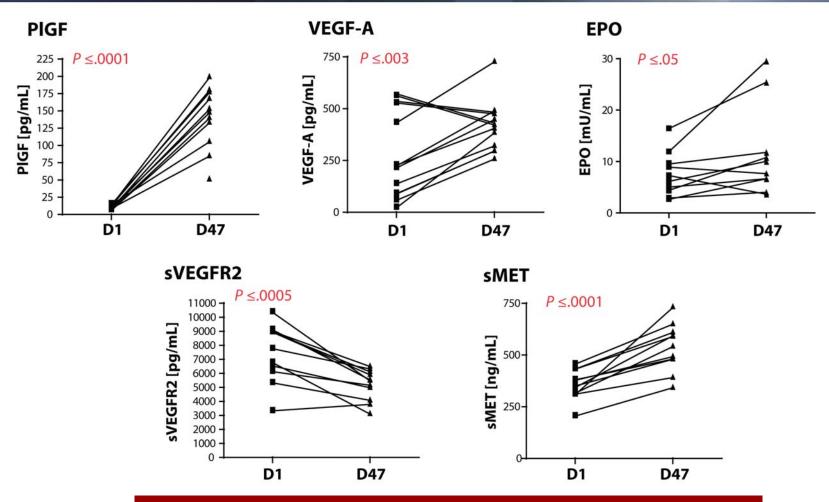
Scan 2/08/07 (baseline)



Scan 7/26/07 (confirmed ~30 days later)



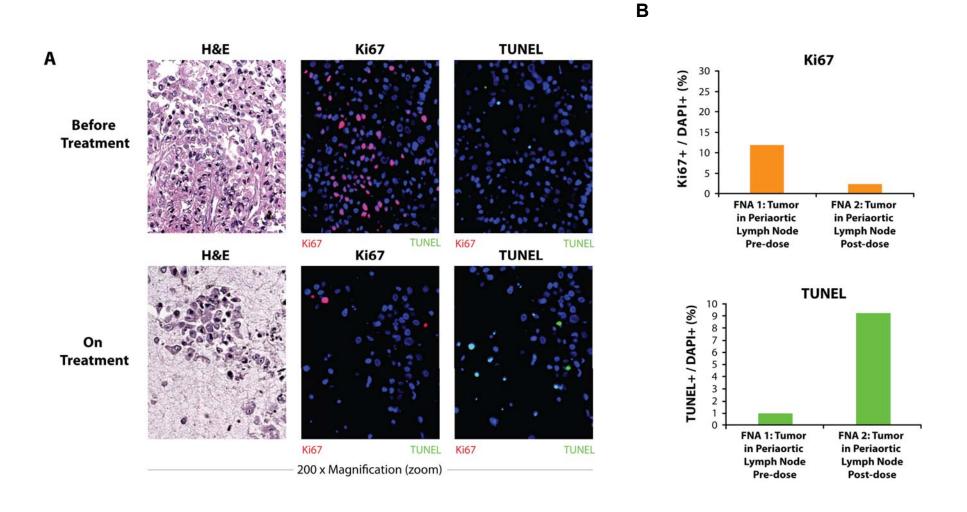
# Analysis of Exploratory Biomarkers in Plasma Samples of Patients Enrolled in Study XL880-201



Modulation of soluble plasma biomarkers consistent with the anti-angiogenic activity of XL880

### EXELIXIS E

# IHC Analysis of Sequential Samples From a Periaortic Lymph Node Metastasis







	Total of 16 patients, n (%)			
Preferred term	Related	Regardless of relationship		
Hypertension	7 (44)	7 (44)		
Diarrhea	2 (13)	3 (19)		
Dizziness	2 (13)	2 (13)		
Fatigue	2 (13)	3 (19)		
Headache	2 (13)	3 (19)		
Dysphonia	0	2 (13)		
Nausea	1 (6)	3 (19)		
Vomiting	1 (6)	2 (13)		

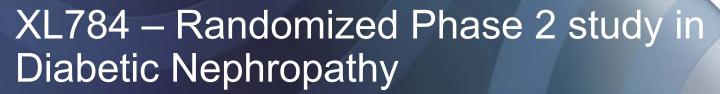


### **XL880 Conclusions**

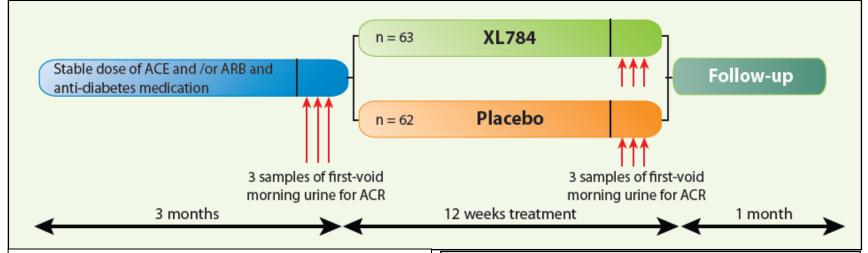
XL880 demonstrates MET & VEGFR2 inhibition both preclinically and in the clinic

XL880 is generally well tolerated

XL880 demonstrates clear antitumor activity in a variety of tumor types in the Phase 1 and in Phase 2 in PRC







#### Inclusion

ACR ≥ 500 mg/g

 $GFR \ge 30 \text{ ml/min/1.73m}^2$ 

Stable blood pressure

Stable dose and schedule of ACE and / or ARB for 3 months

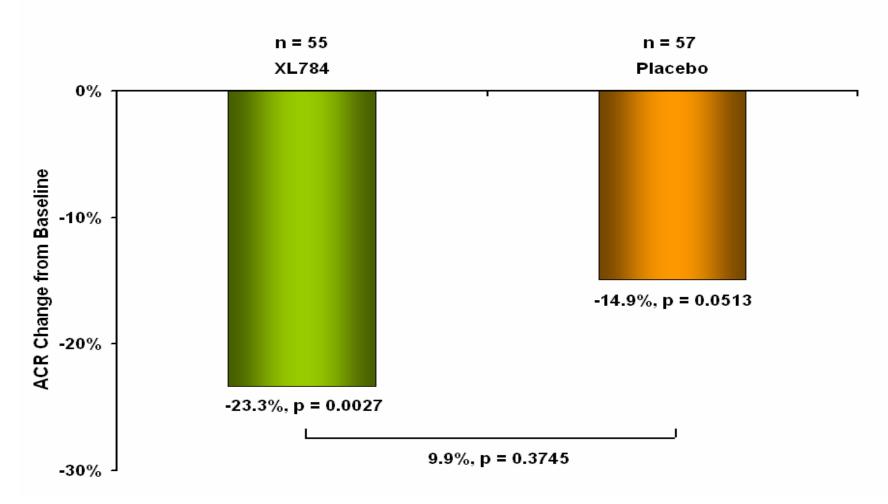
Stable dose and schedule of antidiabetic medication for 3 months

#### **Exclusion**

HbA1c > 10%

# Failed to Meet Primary Endpoint (mITT)





95% CI for treatment difference: (-13.6%, 29.5%)



### Subgroup Analyses

<u>Planned</u>

Baseline ACR

Baseline GFR

Baseline ACR x GFR

Type 1 vs. Type 2

African American vs. Other

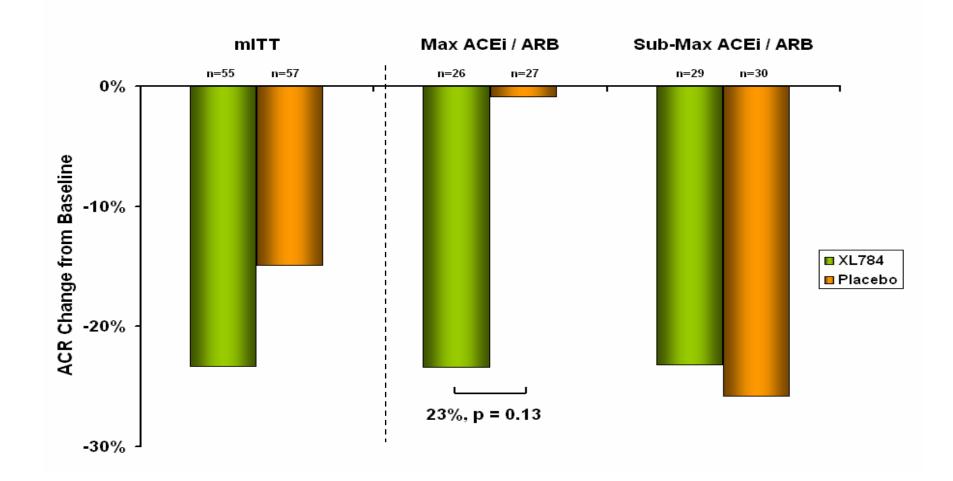
**Exploratory** 

Maximal ACEi / ARB therapy

Maximal ACEi / ARB and Baseline HbA1c ≤ 7.8%









#### Adverse Events

XL784: 200 AEs reported amongst 48 (77%) subjects

Placebo: 258 AEs reported amongst 53 (85%) subjects

AEs reported by more than 10% of subjects in either group

Number (%) of patients	XL784 N=62	Placebo N=62
Nausea	8 (13%)	4 (6%)
Diarrhea	6 (10%)	6 (10%)
Cough	3 (5%)	9 (15%)
Edema peripheral	3 (5%)	8 (13%)
UTI	3 (5%)	7 (11%)
Pitting edema	2 (3%)	6 (10%)

Source: Appendix Table 16.1



## Summary

### **EXACT Study**

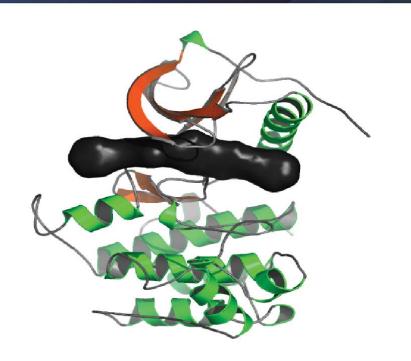
- Failed to meet primary endpoint
- Generally well tolerated
- Encouraging results in subgroup of subjects treated with <u>maximal</u> doses of ACEi / ARBs

PoC package delivered to GSK; decision expected mid-Jan 2008

Further development plan under consideration



#### XL820 Overview



XL820 inhibits wild-type and mutationally activated human KIT, PDGFR $\beta$ , FLT3 and KDR

#### **Pharmacodynamics:**

In vivo effects on tumor vasculature and tumor cell proliferation

#### **Preclinical efficacy models:**

Potent antitumor activity against solid tumors in rodents

#### **Clinical Profile:**

**Evaluated daily and BID dosing in Phase 1** 

**Generally well tolerated** 

PK: exposure increases less than proportional with daily dosing

PD: Inhibition of target molecules in surrogate tissue (hair) and plasma



# XL820: Advancing to Phase 2

### Phase 2 study initiated in GIST

 Patients with progressive disease or intolerance to Imatinib and/or Sunitinib

### Phase 2 study starting in Malignant Melanoma

- Arising in sun damaged skin
- Acral melanoma
- Mucosal melanoma
- Stratified by KIT amplification of mutation



### **B-RAF** activating mutations

- 66% of malignant melanomas
- Also prevalent in papillary thyroid carcinomas, low-grade ovarian serous carcinoma, 5-10% of colorectal tumors

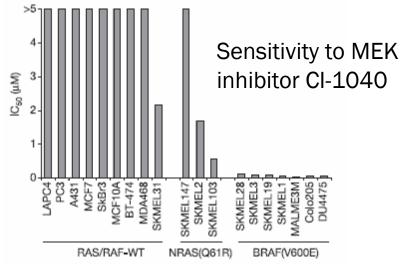
### RAF1/C-RAF- increased expression and activity

- 55%-100% of renal cell carcinomas, high grade ovarian cancers
- HER2-driven breast tumors and androgen-insensitive prostate cancer

# B-RAF mutation predicts sensitivity to MEK inhibition

Solit et al. (2006)

Figure reproduced by permission from Macmillan Publishers Ltd: Nature <u>7074</u>, 358-362, copyright 2006

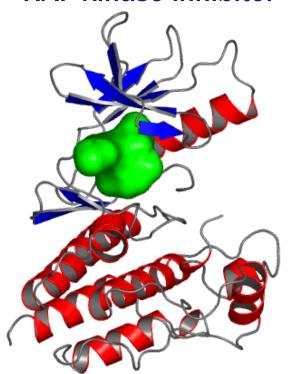




## RAF/MEK/ERK Pathway Modulators

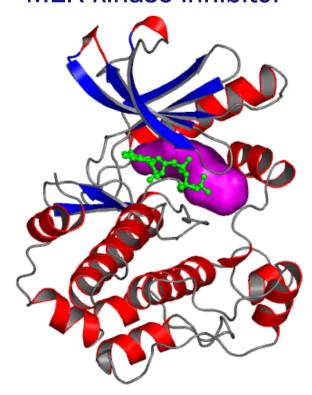
XL281:

Highly specific, ATP-competitive RAF kinase inhibitor



XL518:

Highly specific, Non ATP-competitive MEK kinase inhibitor



Both highly specific: different binding modes



#### Raf Inhibitor XL281

Kinase	IC <sub>50</sub> (nM)
C-RAF	3.6
B-RAF	4.5
B-RAF V600E	5.0

Phase 1 study ongoing in patients with solid malignancies

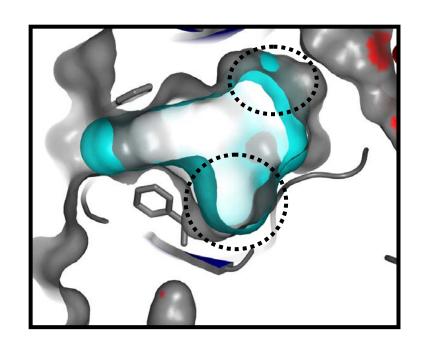
ATP competitive, reversible, highly selective

XL281 binds the active conformation of B-RAF

**Good DMPK properties** 

Dual inhibition of p-MEK & p-ERK in vivo after oral dosing

Anti-tumor efficacy in five xenograft cell lines





#### MEK Inhibitor XL518

#### Specific inhibitor of MEK

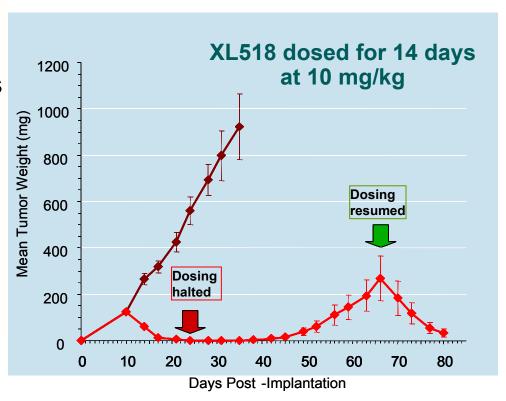
- IC<sub>50</sub> = 0.4nM, highly selective
- Inhibits ERK phosphorylation in mutant BRAF and RAS cell lines
- Complete regression in some xenograft models

#### Attractive PK:

- Orally available
- No food effect in dogs
- No substantial brain exposure

#### **Clinical Status:**

- Phase 1 study ongoing
- Substantial in vivo target inhibition with paired tumor biopsies



Colo205 model (BRaf V600E)

# **Exelixis Pipeline**



	Lead Op	DC	IND	Phase 1	Phase 2	Phase 3
XL647	EGFR, HER2, VEGFR2 – NSCLC, Breast, GBM, H&N					
XL784	MMP2, ADAM 10 - Diabetic Nephropathy					
XL880	MET, VEGFR2 - Papillary Renal Cell, Gastric, H&N					
XL184	MET, VEGFR2	, RET				
XL820	KIT, VEGFR2,	PDGFR				
XL518	MEK					
XL281	RAF					
XL844	CHK1 & CHK2	2				
XL228	IGF1R, ABL, S	SRC				
XL999	VEGFR2, PDG	FR, FGFR1/3, I	FLT3 - NSCLC			
XL147	PI3K					
XL765	PI3K & mTOR					
XL418	AKT & S6K					
XL019	JAK2					

The compounds XL647, XL784 and XL999 have been out-licensed to Symphony Evolution, Inc. and are subject to a repurchase option. Pursuant to a product development and commercialization agreement between Exelixis and GlaxoSmithKline, GlaxoSmithKline has the option, after completion of clinical proof-of-concept by Exelixis, to elect to develop up to three compounds in Exelixis' product pipeline, including XL784 and XL999, but excluding XL647, XL518, XL147, XL765 and XL019. Finally, the compound XL518 is the subject of a codevelopment collaboration between Genentech and Exelixis.



### XL844

Potent inhibitor of Chk1 and Chk2 kinases

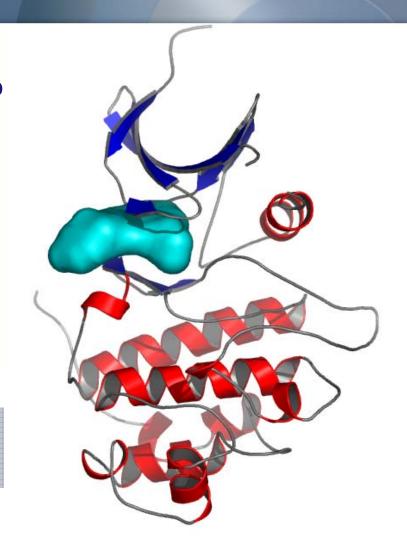
Abrogates DNA-damage checkpoints in vitro and in vivo

High aqueous solubility, metabolic stability, PK and tolerability

Synergistically potentiates activity of genotoxic agents

First specific Chk1/Chk2 inhibitor to advance into the clinic

Phase 1 solid tumors in combination with gemcitabine ongoing



# Therapeutic Opportunity for PI3K Pathway Inhibitors



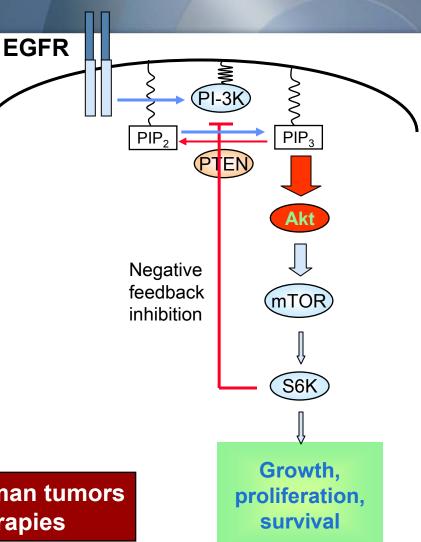
# PI3K pathway abnormalities are common:

- PI3Kα mutation
- PTEN deletion, down-regulation
- RTK activation: growth factor expression, mutation, amplification
- RAS mutation

#### PI3K activation in resistance:

- Chemotherapy and radiotherapy triggers activation of pathway, promotes cell survival
- Targeted therapy failure to downregulate PI3K pathway signaling correlates with lack of response (e.g. rapa + EGFRi)

Pivotal pathway activated in majority of human tumors Inadequately addressed by current therapies





### XL147, a Potent and Selective PI3K Inhibitor

# $PI3K\alpha$ is a key component of the most frequently deregulated pathway in human tumors

- PI3Kα activating mutations/amplification
- PTEN down-regulation

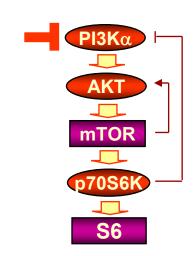
#### Potent, selective PI3K inhibitor

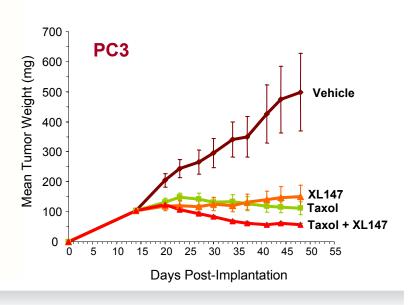
- No activity vs mTOR, or S/T/Y kinases
- Active against WT and mutant PI3Kα

#### **Excellent PK/PD properties**

- Good oral bioavailability in 4 species
- Robust inhibition of AKT phosphorylation in multiple tumor models, >24 hr duration of action

# Efficacious in xenograft tumor models Single agent and combinations



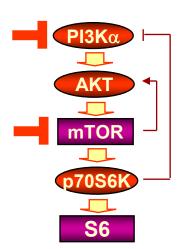




### XL765, a Dual Inhibitor of PI3K and mTOR

#### mTOR is a pivotal node in the PI3K pathway

- Activated by PI3K dependent and independent mechanisms (amino acids, energy)
- Implicated in complex feedback regulation of the PI3K pathway

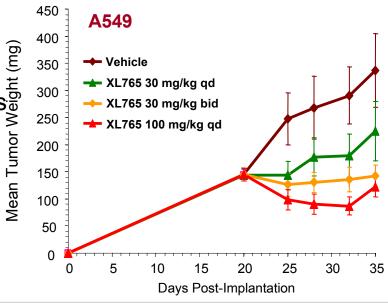


#### Dual PI3K/mTOR inhibitor

- WT and mutant PI3Kα.
- No activity vs S/T/Y kinases

#### Excellent PD, good duration of action

# Robust inhibition of pAKT and pS6 in tumors 24 hr duration of action flicacious in xenograft tumor models Single agent and combinations Efficacious in xenograft tumor models Single agent and combinations



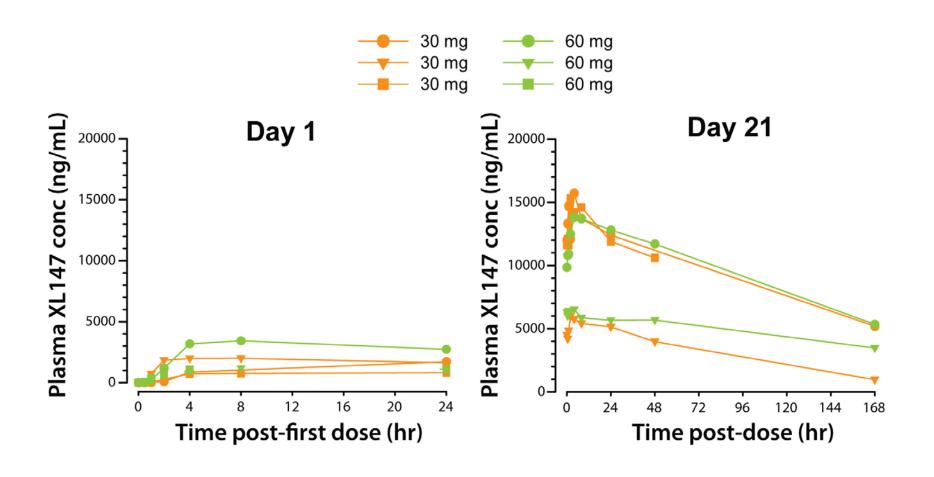
December 5, 2007 **Exelixis R&D Day** 167



# Targeting Aberrant PI3K Pathway Signaling With XL147 and XL765, Potent Inhibitors of PI3K and PI3K/mTOR

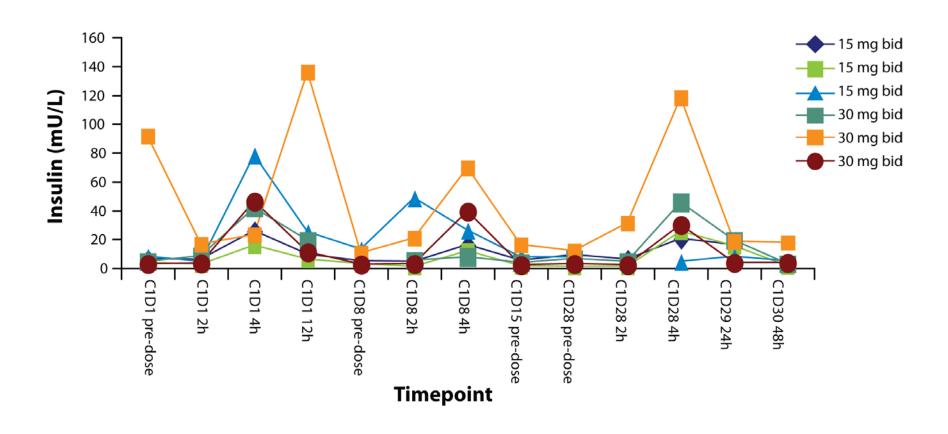


# Plasma Concentration—time Plots for XL147 Dosed at 30 and 60 mg





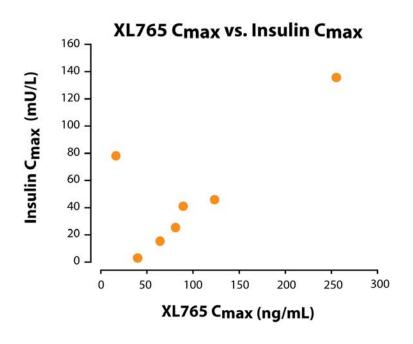
# Plasma Concentrations of Insulin Following Twice-daily Dosing With XL765 at 15 and 30 mg BID

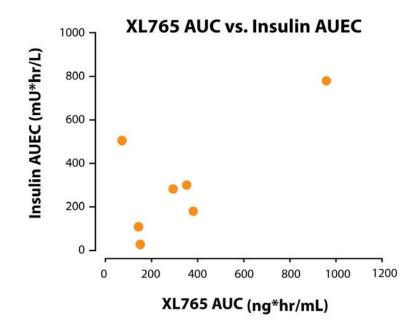




### Plasma Insulin Plotted Against Selected XL765 Plasma Exposure Parameters

#### Patients from Cohorts 1 and 2 and a patient from Cohort 3 (n = 7 total)







### PI3K/mTOR Inhibitors - Conclusions

# XL147 and XL765 are potent, orally bioavailable inhibitors of PI3K and PI3K/mTOR, respectively

Robust pharmacodynamic and efficacy data in preclinical models

# PK from early cohorts in the Phase 1 clinical trials is encouraging for both compounds

Plasma insulin levels tracked as a PD marker – early evidence of dose dependent effects for XL765

Dose escalation continues

Exciting potential for combination with targeted therapies (XL880, XL184, XL647) and with chemotherapy

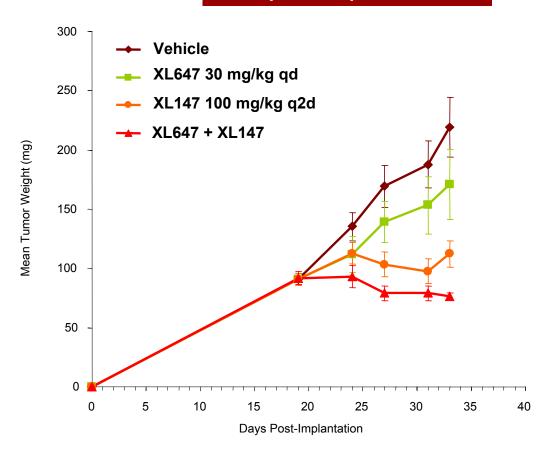


### XL647/ XL147 Combination Data

MCF7 breast carcinoma model EGFR positive, p110 $\alpha$  E545K

# Rational combination strategy for XL compounds

- -XL647 EGFR/HER2/VEGFR
- -Combination has superior efficacy in xenograft model





### Broad Phase 2 Plan in Various Tumors

### Single agent evaluation

### Combination approaches

- XL647
- Erlotinib
- Other targeted agents including Sorafenib, Herceptin, Lapatinib...
- Chemotherapeutic agents



# XL228 Summary

#### Potent dual inhibitor of IGF1R & SRC

- IGF1R enhances cell growth and survival
- SRC cooperates with FAK to promote motility and invasion

#### Potent inhibitor of wt & mutant Abl

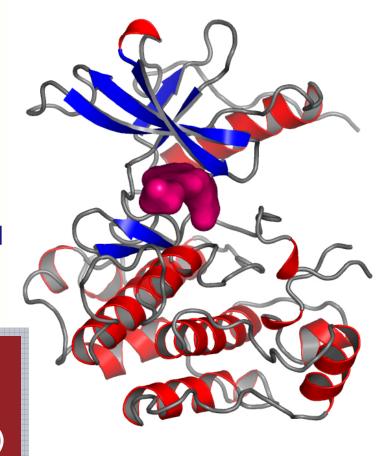
Effective against Imatinib and Dasatinib resistance mutations

# Significant in vivo PD effects on IGF1R and SRC pathways

Efficacious in multiple xenograft models

#### Phase 1 studies ongoing in patients with

- 1. CML (Imatinib and Dasatinib resistant)
  - Data presentation at ASH (12/10/07)
- 2. Advanced Malignancies





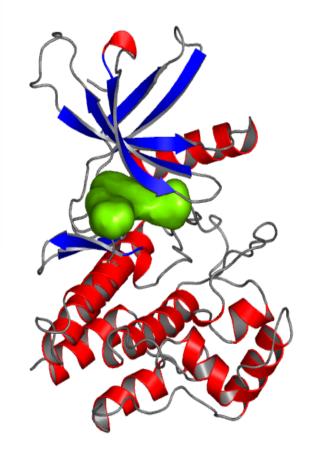
#### XL019 – Potent & selective JAK2 Inhibitor

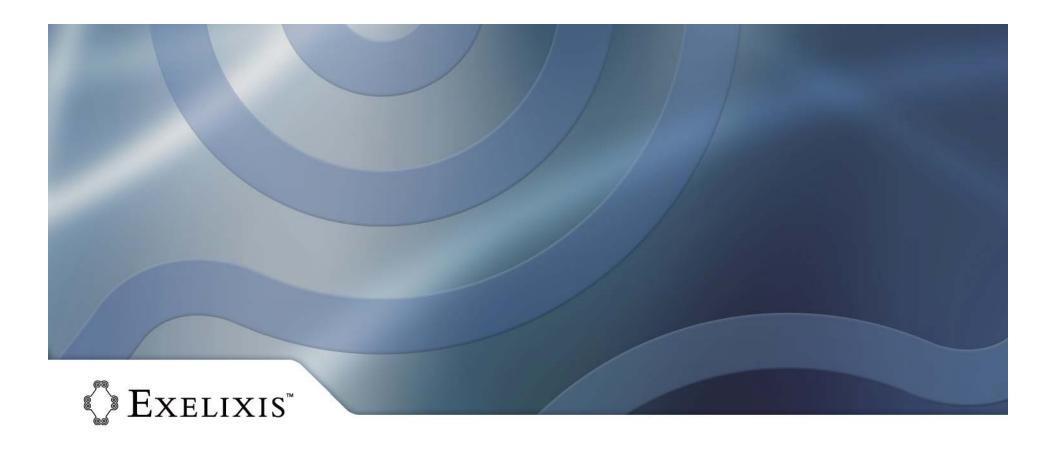
#### Excellent pharmaceutical properties

- Oral bioavailability; good preclinical PK
- Excellent CYP profile & low microsomal oxidation

#### Demonstrated in vivo activity

- Downregulation of pSTATs in JAK2-driven model
- Inhibition of tumor growth in JAK2-driven model
- 1. Phase 1 dose escalation study in patients with myelofibrosis
  - Data presentation at ASH 12/10/07
- 2. Phase 1 dose escalation study in patients with polycythemia vera starting in Dec. 07





# Discovery Platform Peter Lamb, PhD, SVP & CSO



### **Discovery Platform**

Exelixis has built a leading small molecule discovery platform capable of a sustained output of 3+ INDs / year

Large (4.6M) compound library and a fast, flexible HTS platform







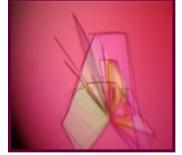


Potent Leads
Multiple Scaffolds
Multiple Target Classes

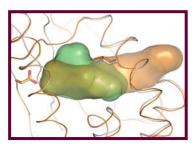
Fully integrated structural biology capabilities











Detailed structural information guides lead optimization



### **Discovery Platform**

Intensive parallel optimization of in vitro DMPK, cellular and in vivo parameters



In vivo target modulation (PD) is a key optimization parameter

#### Leads with appropriate PD advance into efficacy and tolerability studies

 Attrition during lead op due to target validation questions, SAR constraints, toxicity concerns

Robust HTS and lead validation pipeline and data driven decision making to focus resources on programs with best chance of success



### Discovery Pipeline Overview

#### Three DCs identified in 2007

- Hedgehog Antagonist, XL139
- HSP90 inhibitor, XL888
- LXR partial agonist, XL652 (BMS-788)

#### On track for 3 additional DCs in 1H08

- CDC7 inhibitor (Oncology; EXEL-5413 is preDC)
- 11βHSD inhibitor (Metabolic disease; EXEL-5465 is preDC)
- Selective mTOR inhibitor (Oncology)

Robust early stage pipeline in oncology and metabolic disease

Expanded capabilities in metabolic disease, translational medicine and target ID / validation



# Hedgehog Signaling and Cancer

Production and processing of HH ligands plays a key role in developmental processes

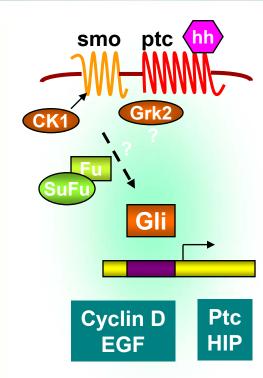
- SHh, IHh and DHh
- Renewal of tissue stem cells

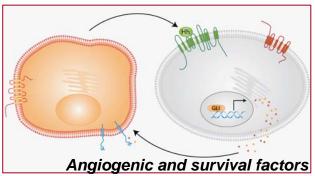
Inappropriate activation of the HH signaling pathway occurs in a variety of tumors

- Genetic activation (loss of repressors, activating mutations)
- Over-expression of ligands

HH ligand production can result in pathway activation in both tumor and stromal cells

- Activation in tumor cells promotes proliferation
- Activation in the stroma promotes production of angiogenic and survival factors







# Hedgehog – Potential Indications

# Tumors that harbor pathological mutations in pathway components

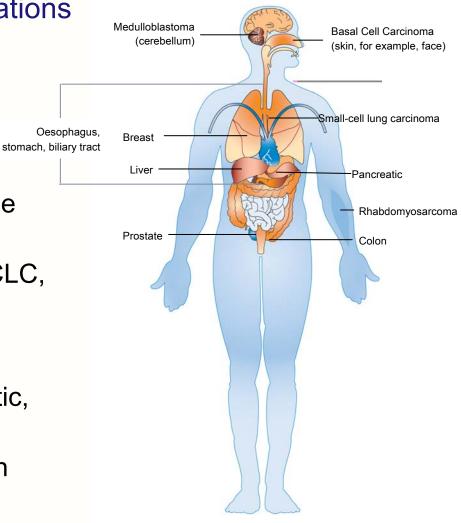
 Examples: BCC, medulloblastoma, rhabdomyosarcomas

#### Ligand-expressing tumors

- Autocrine/paracrine stimulation of the tumor/stroma
- Examples: Pancreatic, prostate, SCLC, digestive tract tumors

#### Cancer stem cells

- Examples: Glioblastomas, pancreatic, breast tumors and MM
- Strong rationale for combination with chemo and radio therapy





## **EXEL-1139 Overview**

#### EXEL-1139 is a novel, potent antagonist of HH signaling

Binds to smoothened

	3T3 Gli Reporter	Gli1	Smo S533N	Smo W535L
IC50 nM	6	7	27	35

BCC activating mutations

## EXEL-1139 has excellent PK and PD properties

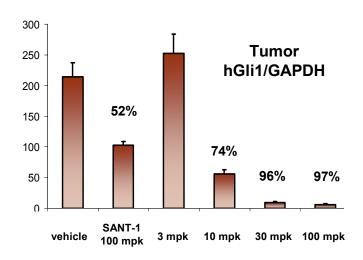
- Excellent oral bioavailability
- Minimal CYP interactions
- Profound downregulation of HH signaling in tumors and stroma

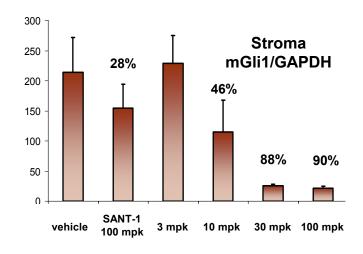


# EXEL-1139 Inhibits Tumor and Stromal HH Pathway Activation in a Medulloblastoma Model

# EXEL-1139 is a potent inhibitor of HH pathway activation in a medulloblastoma model expressing high levels of SHh

SHh drives pathway activation in tumor and stroma



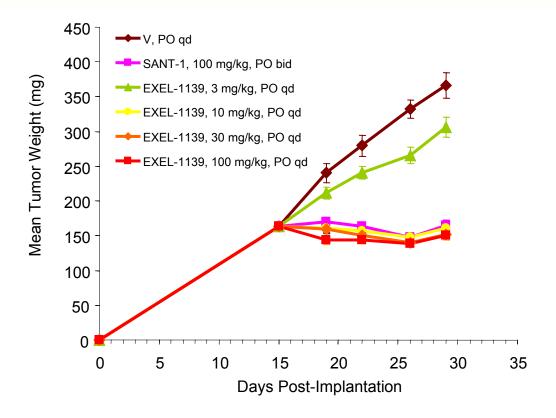




# EXEL-1139 Efficacy

## Highly efficacious in a human medulloblastoma model

Well tolerated at all doses





# EXEL-1139 (XL139) Summary

#### Novel, potent inhibitor of HH signaling

Excellent preclinical PK and PD properties

#### Active in xenograft models

Impact on tumor and stromal cells

#### Strong rationale for combination with chemo and radio therapy

 Exploit potential to inhibit survival of chemo and radio resistant tumor stem cell component

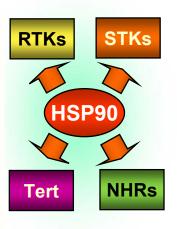
XL139 scheduled to enter clinical trials 2Q08



## EXEL-4888, Novel HSP90 Inhibitor

# Chaperone that stabilizes multiple proteins deregulated in human tumors

- ErbB2, AKT, Raf, Src, CDK4, AR
- Key role in stabilizing mutant proteins
- Overexpressed in human tumors



#### First generation inhibitors in clinical development

- Geldanamycin analogues, poor DMPK properties
- Inconsistent tumor exposure due to metabolism
- Hepatotoxicity intermittent dosing schedules limit efficacy

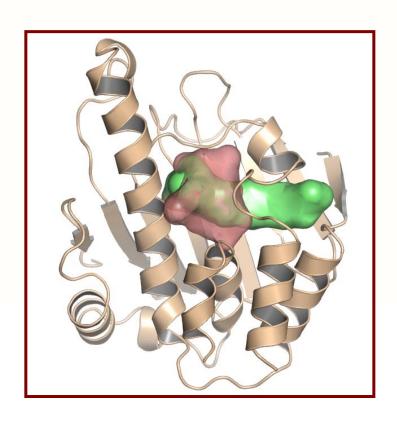
Opportunity for 2<sup>nd</sup> generation compounds with improved DMPK

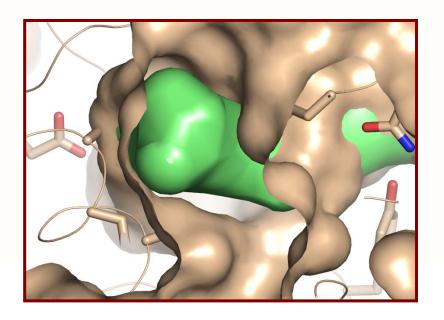


## EXEL-4888, Novel HSP90 Inhibitor

EXEL-4888 is a highly novel scaffold and accesses interactions not described by other HSP90 inhibitors to date

• EXEL-4888 (green) has distinct binding mode from clinical competitor 17-AAG (pink)



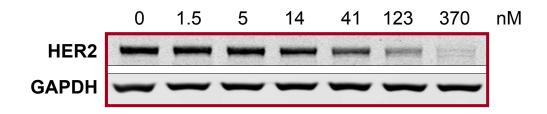




## EXEL-4888 In Vitro Potency Profile

# EXEL-4888 has equivalent or superior potency to 17-DMAG in client degradation and proliferation assays

low – sub nM anti-proliferative activity



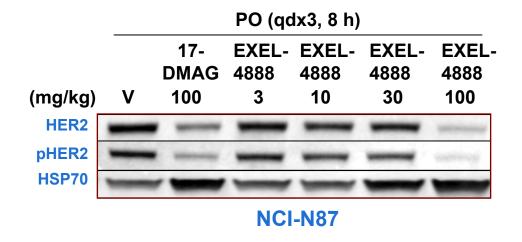
	Proliferation IC <sub>50</sub> nM					
	BT-474	Colo-205	HN5	NCI-N87	MCF7	
17-DMAG	0.3	15	10	19	8	
4888	0.1	12	6	28	15	



## EXEL-4888 Down-regulates Multiple HSP90 Clients In Vivo

Oral administration of EXEL-4888 results in HSP90 client protein reduction in 3 xenograft models

HSP70 upregulation also observed

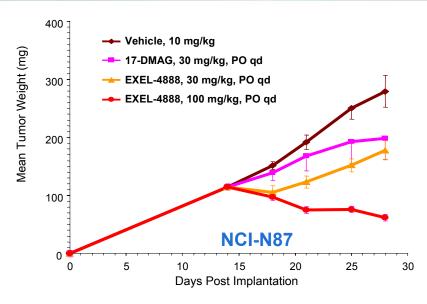


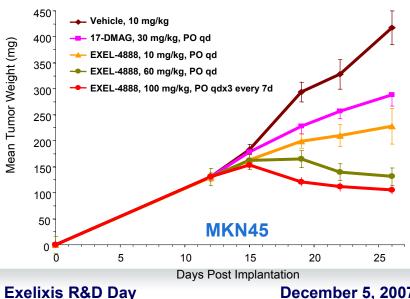


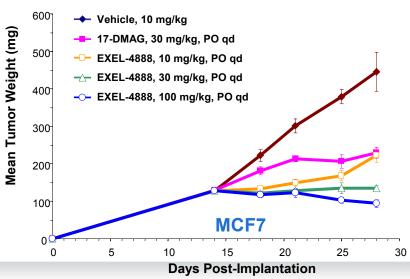
## EXEL-4888 is Efficacious in Multiple Xenograft Models

EXEL-4888 demonstrates excellent efficacy in MCF, NCI-N87 and MKN45 xenograft models

Superior efficacy vs 17-DMAG at MTD







**December 5, 2007** 

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# EXEL-4888 (XL888), Novel HSP90 Inhibitor

#### EXEL-4888 is a novel, potent HSP90 inhibitor

- Highly active in cellular client protein degradation and proliferation assays
- Excellent in vivo pharmacodynamic activity in multiple tumor models

#### Advantages over 17-AAG and derivatives

- Good oral bioavailability
- Activity independent of quinone oxidoreductase (diaphorase) activity
- Improved tolerability of EXEL-4888 results in superior preclinical efficacy at MTD vs 17-DMAG
  - Potential to allow for more continuous dosing schedules intermittent schedules required for geldanamycin analogues likely to limit efficacy



## CDC7 Rationale

Serine/Threonine kinase that regulates initiation of DNA replication and progression through S-phase

- Phosphorylates and regulates MCM proteins (putative DNA helicase)
- Kinase activity is required for firing of origin of replication (ORC) complexes

#### CDC7 is over-expressed in many tumor types

Potential for broad spectrum activity

Inhibition of CDC7 in tumor cells is associated with aberrant S-phase progression followed by apoptosis

- p53 independent
- Normal cells enter reversible arrest

Novel approach to inhibiting tumor cell proliferation with potential for reduced side effects



#### EXEL-5413: Selective CDC7 Inhibitor

EXEL-5413 is a novel, potent and selective inhibitor of CDC7

CDC7 biochemical IC50 4 nM

EXEL-5413 is highly active in a cell-based assay monitoring CDC7

dependent phosphorylation of MCM2

• IC50 191 nM

Attractive in vitro DMPK profile and in vivo PK

- Limited interaction with CYPs
- No inhibition of hERG
- High exposure following oral dosing

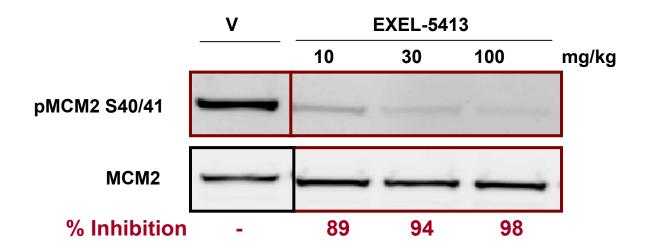
Encouraging activity and tolerability in preclinical tumor xenograft models



## EXEL-5413: Selective CDC7 Inhibitor

#### EXEL-5413 is highly active against CDC7-specific PD readout in vivo

 phosphorylation of MCM2 by CDC7 is significantly reduced in a xenograft tumor model following a single oral dose of EXEL-5413



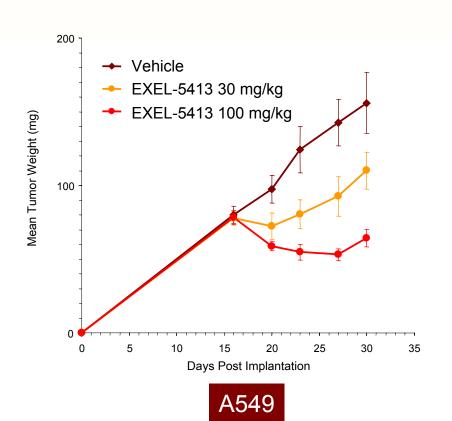
A431 human tumor xenograft

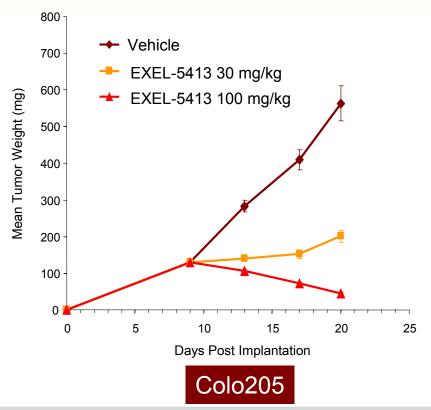


# EXEL-5413 Efficacy in Xenograft Tumor Models

## EXEL-5413 shows significant TGI in tumor xenograft models

- A549 and A431 models
- Well tolerated at 30 and 100 mg/kg







# EXEL-5413 Summary

#### EXEL-5413 is a selective inhibitor of CDC7

- Novel scaffold
- Attractive in vitro ADME profile
- Excellent oral bioavailability

Robust PD activity vs CDC7 readout in tumors in vivo

Encouraging efficacy in preclinical xenograft models

Well tolerated

EXEL-5413 may also be very potent in combination with genotoxic chemotherapy

Documented role of CDC7 in protection from genotoxic stress

EXEL-5413 is a preDC – DC declaration 1Q08

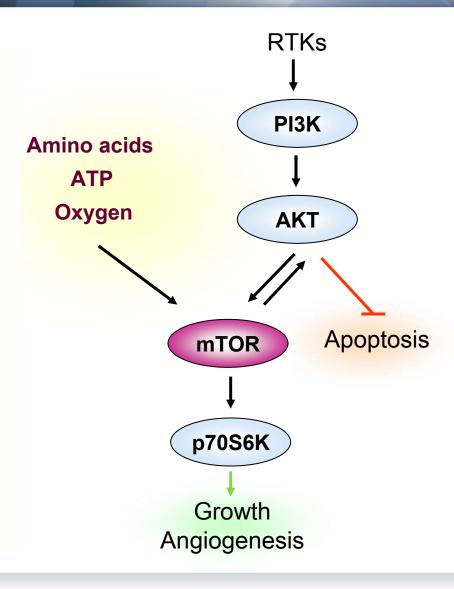


mTOR is an S/T kinase that is a pivotal node in the PI3K signaling pathway

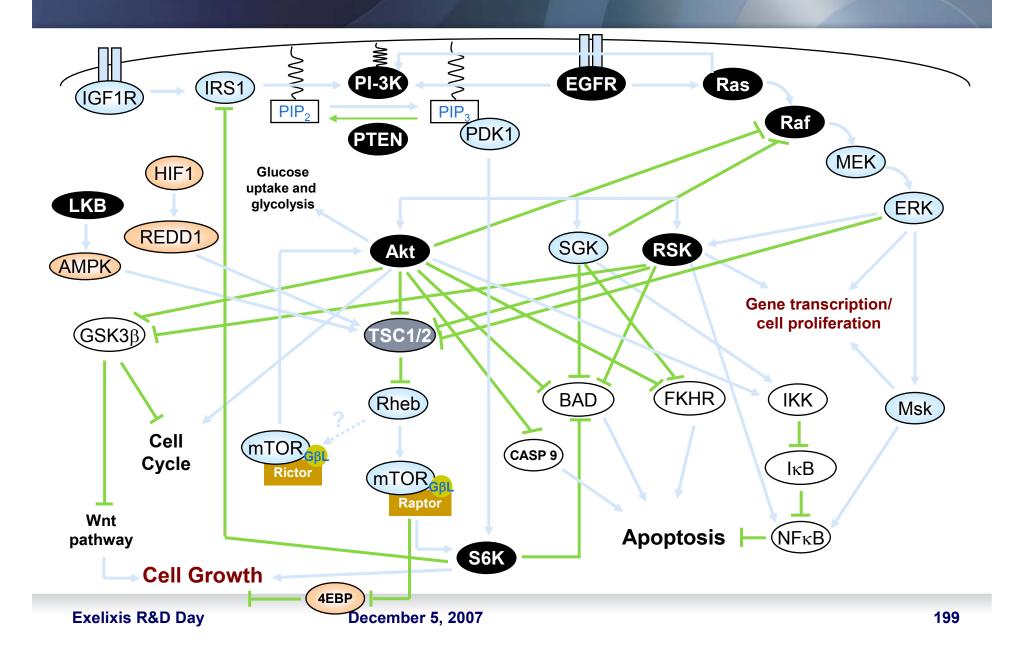
- Promotes growth
- Promotes angiogenesis
- Inhibits apoptosis

mTOR plays a highly conserved role in integrating cellular growth signals with cellular metabolic status

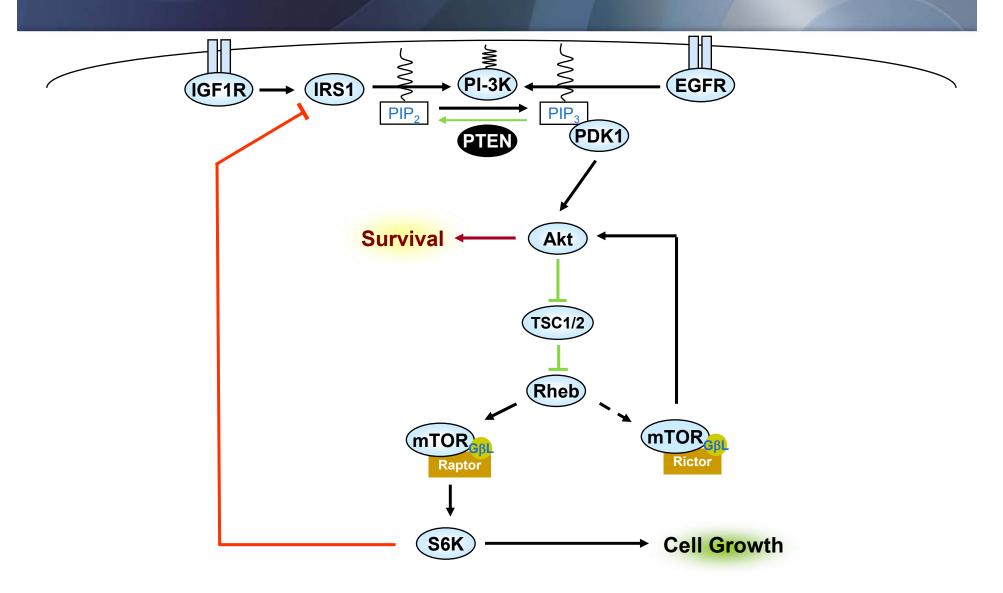
- Cellular energy levels
- Amino acid availability
- Oxygen levels



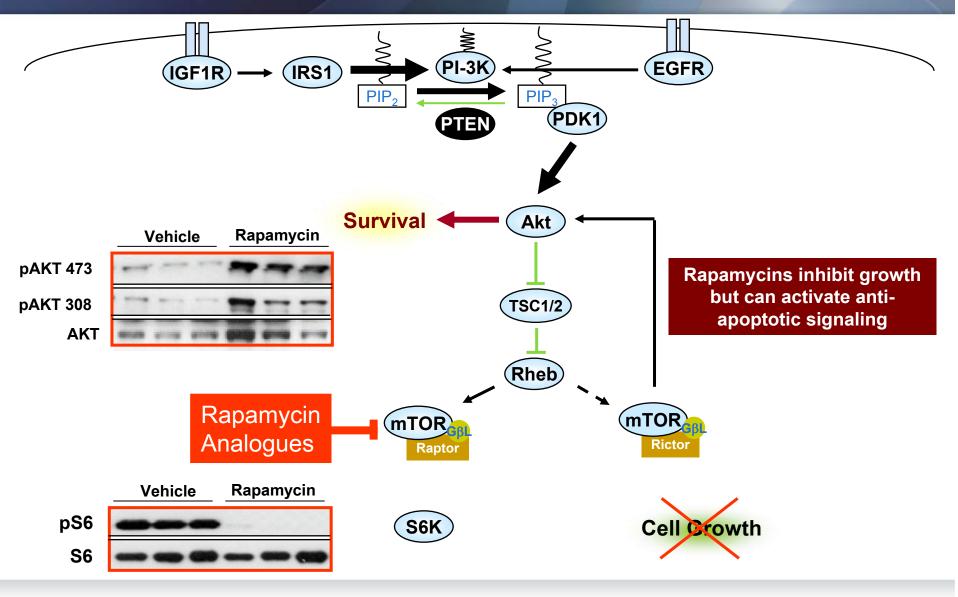




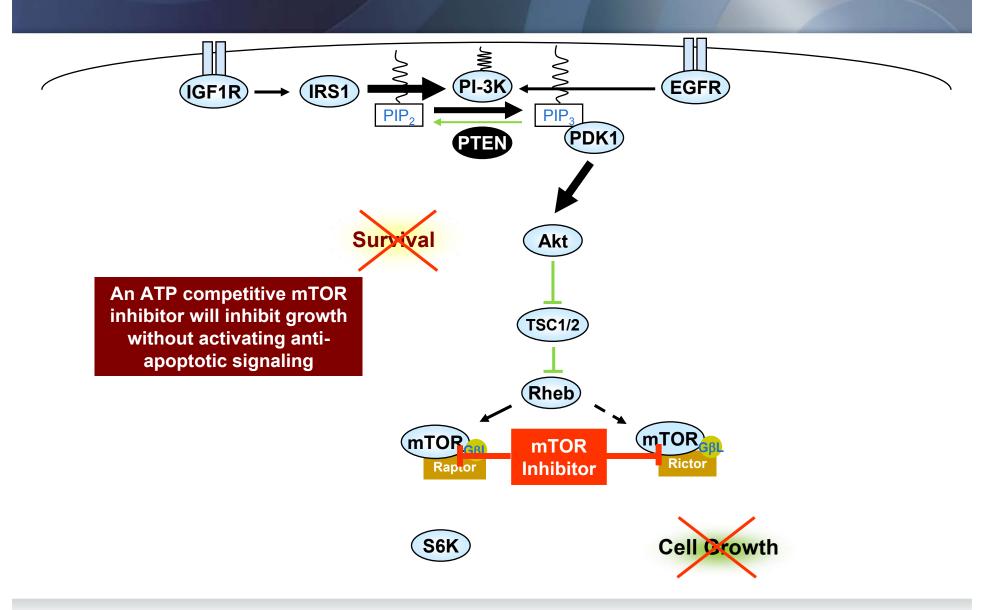














# An ATP competitive mTOR inhibitor will inhibit both mTOR / Raptor and mTOR / Rictor

- Inhibit p70S6K and AKT activity
- Distinct from and superior to rapamycins

#### HTS completed using recombinant mTOR

- Focus on a single scaffold ATP competitive
- Multiple additional scaffolds identified

# Rictor MTOR AKT Raptor MTOR p70S6K

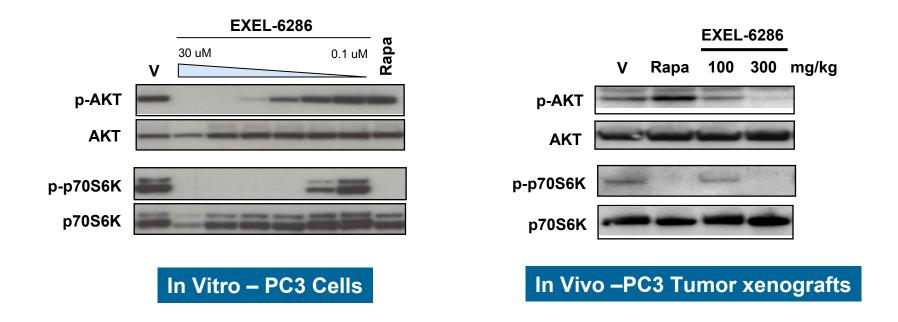
#### SAR has yielded highly potent selective leads

- <1 nM vs mTOR / Rictor complex</p>
- <100 nM in cellular mechanistic assays (pS6)</li>
- >100x selective vs PI3K



#### Balanced inhibition of both p-p70S6K and pAKT S473 in PC3 cells

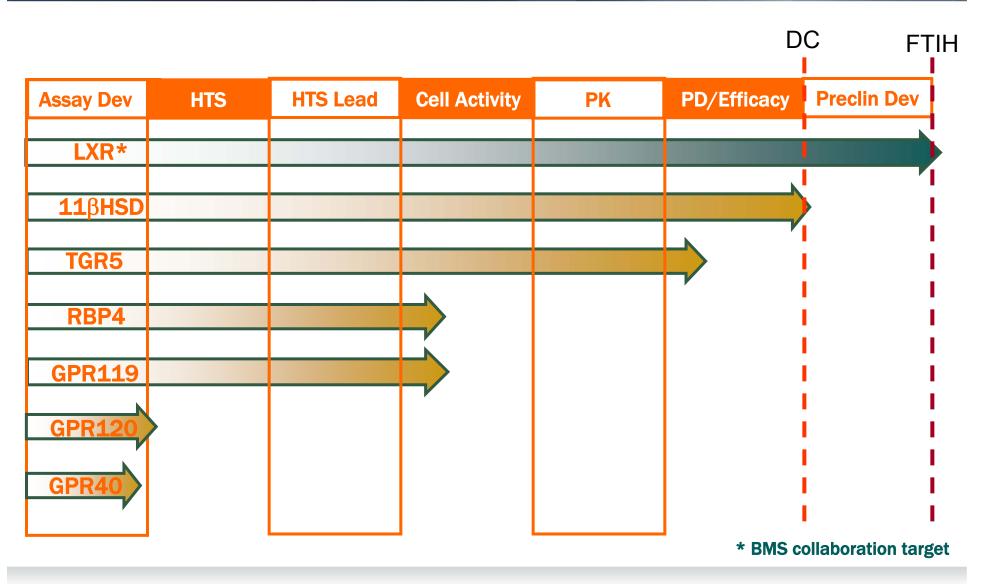
In vitro and in vivo



Advanced leads with in vivo PD activity – DC selection 1Q08



# Discovery Pipeline – Metabolic Disease





#### LXR and Atherosclerosis

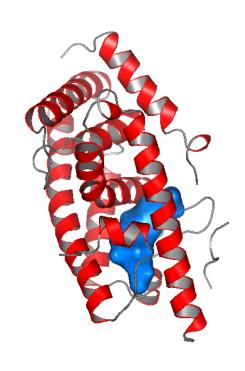
#### **Atherosclerosis**

- Primary mechanism of CAD and number one leading killer in the US
- Unmet need for therapy that effects disease pathology
  - Macrophage inflammation
  - Plaque stability and regression

#### **LXR Agonists**

- Increase ABCA1 and reverse cholesterol transport
- Inhibit inflammation at vessel wall
- Are anti-atherogenic in established lesions

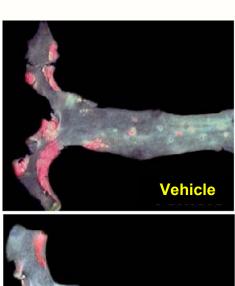




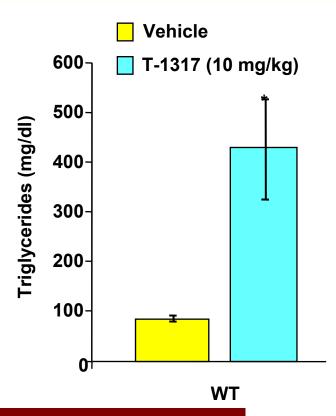
# First Generation LXR Agonists in Atherosclerosis Studies



Prototype compound is efficacious in atherosclerosis model but raises serum and hepatic triglycerides





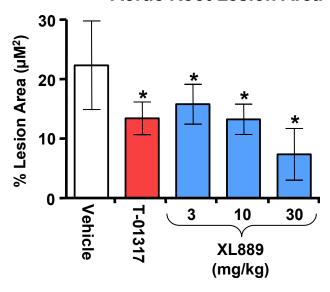


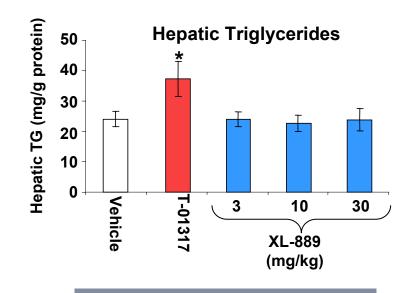
Minimize impact on LXR $\alpha$  in the liver while maintaining upregulation of RCT in the periphery



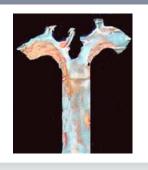
# Exelixis LXR Agonists Show Separation of Anti-Athero Efficacy from Lipid Elevation Side-Effects

#### **Aortic Root Lesion Area**





Significant Reduction in Lesion Area





No Effect on Hepatic TG



#### LXR DC XL652

XL652 is a potent LXR partial agonist, discovered as part of our ongoing collaboration with Bristol-Myers Squibb XL652 shows high LXRβ binding affinity and potent cellular activity in multiple target assays XL652 potently induces ABCA1 in PD studies in the cynomolgus monkey

 10X therapeutic window for ABCA1 induction vs. effects on lipids (triglyceride and LDL elevation)

XL652 shows >70% oral bioavailability in non-clinical species

First patient dosing imminent

Advanced backup compounds identified



# 11βHSD Rationale

#### Link between stress and diabetes/obesity

Converts cortisone to cortisol in adipose tissue, liver and skeletal muscle

Promotes gluconeogenesis, insulin resistance and adiposity 11βHSD1 is upregulated 3-5 fold in obese humans

Exelixis K&D Day December 5, 2007



# 11βHSD1 Rationale

Adipose-specific overexpression of 11βHSD1 in transgenic mice results in a human type 2 diabetic phenotype

- visceral obesity
- glucose intolerance and insulin resistance
- dyslipidemia (increased TG and FFAs)

Small-molecule inhibitors of 11βHSD1 reduce intracellular cortisol levels in rodents

 Reverse multiple factors contributing to metabolic syndrome including obesity, diabetes, dyslipidemia and atherosclerosis

Non-specific inhibitors cause hypertension by activation of MR

 HSD inhibition by glycerrhizic acid underlies licorice-induced hypertension



# 11βHSD1 Program

# Human 11βHSD1 preDC identified (EXEL-5465)

- Highly selective for HSD1 vs. HSD2
- Novel scaffold backup scaffolds identified
- Excellent oral bioavailability
- Minimal interaction with CYPs

|--|

IC50s	hHSD1 nM	hHSD2 nM	mHSD1 nM
EXEL-6343	10	>10000	14
EXEL-5465	15	>10000	497

Structure of lead scaffold in mHSD1 solved at 2.6 A

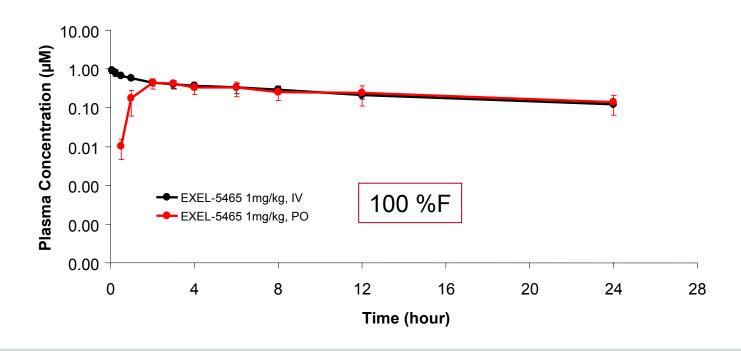
Lead scaffold binds to enzyme-NADPH complex



# 11βHSD1 Program

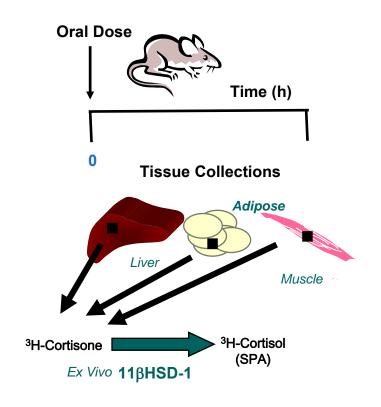
EXEL-5465 has excellent pharmacokinetic properties in rodent and non-rodent species

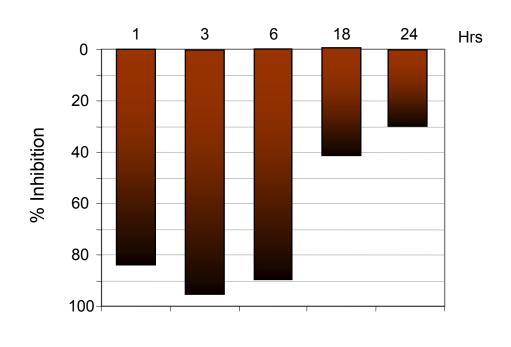
- High oral bioavailability
- Good exposure
- Half life compatible with once daily dosing





# EXEL-6343 Ex-Vivo HSD1 Inhibition Time-course in WAT (White Adipose Tissue)





Potent and sustained inhibition following a single dose of EXEL-6343



# **11βHSD1 Program Summary**

#### EXEL-5465 is a novel, potent HSD1 inhibitor

- Highly selective for HSD1
- Inhibitory potency and activity similar to or better than published compounds

No significant interaction with CYPs or hERG

#### **Excellent PK**

- High oral bioavailability
- Good distribution of compound into target tissue

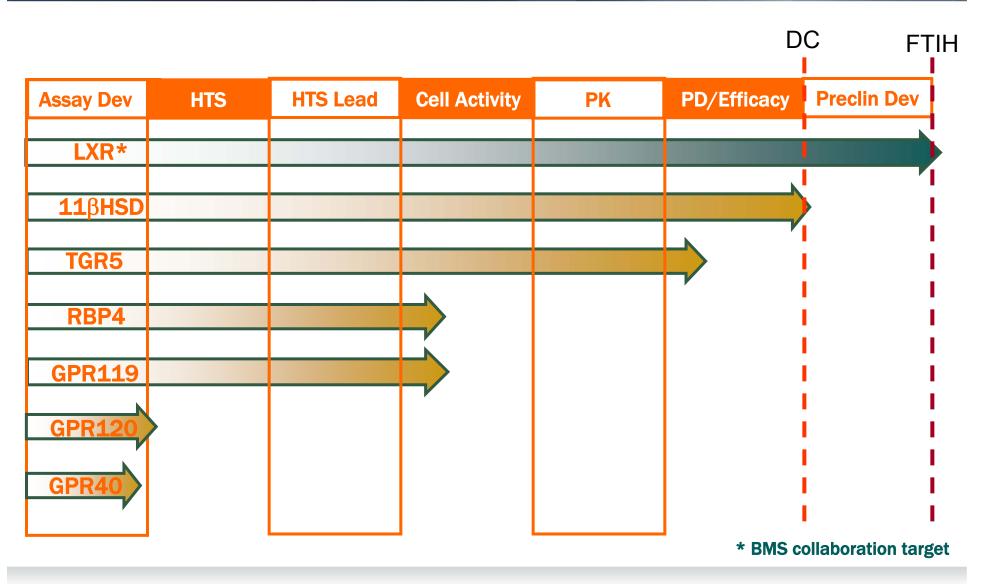
Lead series demonstrates potent inhibition of liver, fat and muscle HSD1 following a single oral dose

Extended duration of action: inhibition observed up to 18 h

EXEL-5465 is a pre-DC, DC nomination 1Q08



# Discovery Pipeline – Metabolic Disease





## **Discovery Summary**

## Highly productive and flexible Discovery platform

- Success optimizing DCs against multiple target classes (kinases, NHRs, enzymes)
- Oncology and metabolic disease

## Three new DCs advanced in 2007, advanced lead op programs will provide additional DCs in 2008

- Robust early stage pipelines in oncology and metabolic disease and increased target validation capabilities will provide continued flow of DCs
- Growth / replenishment of Exelixis development pipeline
- Additional partnering opportunities

## Expanded capabilities for Translational Medicine support

 Tumor genotyping, plasma biomarkers, tumor and surrogate tissue target modulation



# Financial Overview Frank Karbe, EVP & CFO

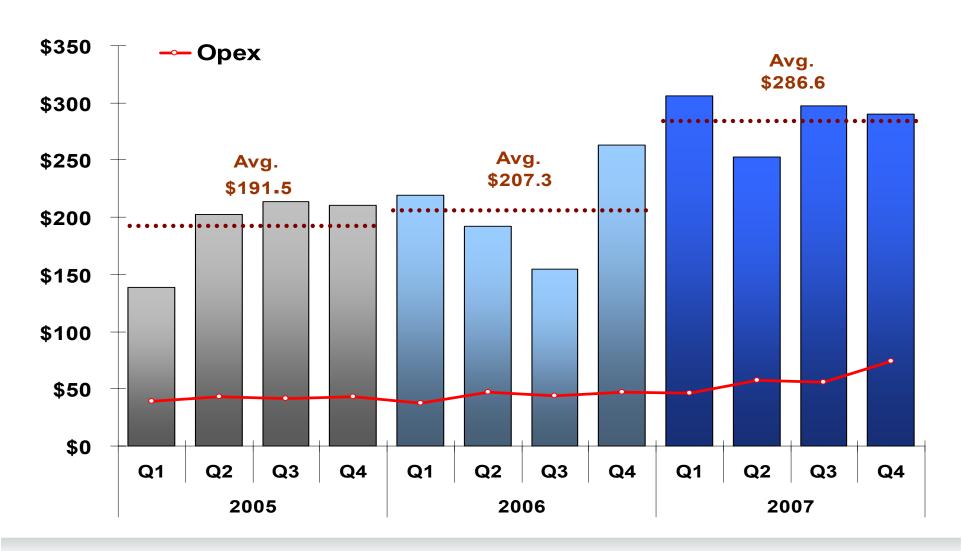


## Finance Topics

- 1. Review of Financing History
- 2. Outlook for 2008
- 3. Update on Collaborations



# Quarterly Cash Balance 2005 to 2007 (\$ in MM)



# Cash Balance & Estimated Burn (\$ in MM)



	Actu	Forecast	
	2005	2006	2007
Beginning Balance	171.2	210.5	263.2
<b>Ending Balance</b>	210.5	263.2	> 290.0
Difference	39.3	52.7	> 26.9
<b>Equity Proceeds</b>	(49.6)	(90.5)	(71.9)
Net Burn	(10.3)	(37.8)	< (45.0)



# Financing History – 4 Pillar Strategy 2005 to 2007 (\$ in MM)

	Total Cash Raised	2005	2006	2007	Total	(%)
0	Existing Partnerships:	63	37	44	144	23%
2	New Partnerships:	35	151	-	185	30%
8	Clinical Financing:	40	40	-	80	13%
4	Equity Markets:	50	91	72	212	34%
	TOTAL	187	318	116	621	100%
	Divestitures:	-	-	38	38	
	Total Cash Raised	187	318	154	659	

## Exelixis Funding Outlook – Summary



#### **Healthy Cash Balance**

- □ > \$340M in cash and committed funding at Year-End 2007
- □ > \$1Bn in contingent funding

#### Potential substantial milestones from collaborations in 2008

- □ BMS Oncology
- □ Genentech (MEK) Oncology
- □ GSK Oncology
- □ Sankyo (MR) Metabolism

#### Multiple high value assets for potential new collaborations

- □ XL647
- □ XL765 & XL147
- □ XL019
- □ XI 784
- □ New DCs (Oncology & Metabolism)



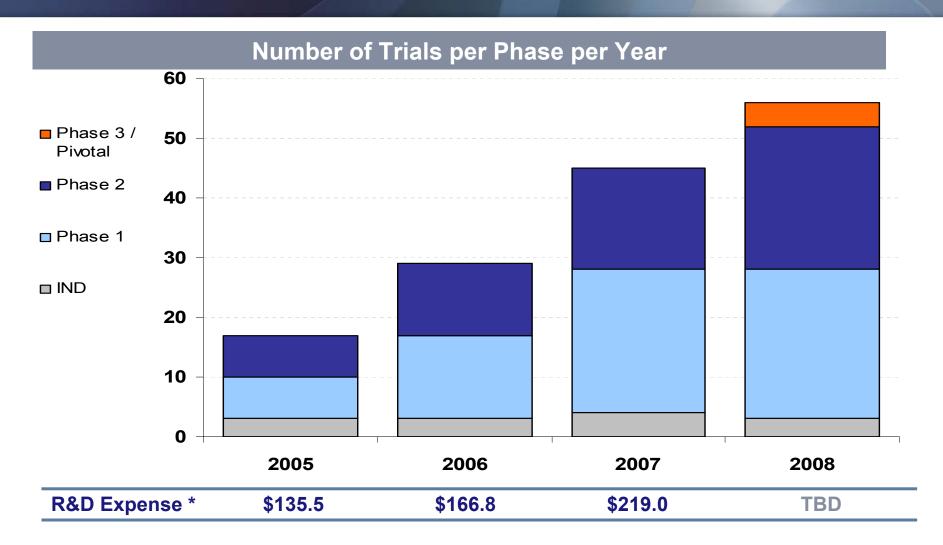
## Financial Outlook 2007 & 2008 (\$ in MM)

	2007		2008
	Guidance	Outlook	Comments
Revenue	110 - 120	•	Milestones New Business Development
Discovery Development G&A			
Operating Expense	260 - 290	•	Driven by Development
Cash	> 290		

- 2007: Revenue & Opex Guidance Confirmed; Cash Guidance Increased
- 2008: Financial Guidance to be provided at Q4 Earnings Call

## **R&D** Productivity





<sup>\*</sup> Excludes Artemis & Exelixis Plant Sciences

## ♦ EXELIXIS

## Managing Burn

## **Focusing Our Efforts**

- □ Discontinued XL999 and XL418
- □ Divested non-core assets
- □ Reviewing options for XL784

## Leverage Partnering Strategy

- □ Expect multiple opt-in decisions in 2008
  - □ Receive milestones
  - □ Off-load future development expenses
- □ Continue selective partnering

## **Financial Discipline**

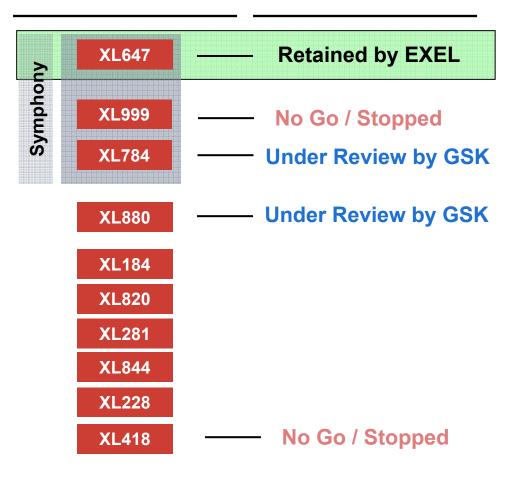
- □ Transparency / insight
- □ Informed / smart decision making



# GSK Collaboration Overview and Status Update

**Compounds Included** in **GSK Collaboration** 

**Status** 



GSK has right to select two compounds; all others stay with EXEL

- □ GSK could obtain 3<sup>rd</sup> pick if collaboration were extended
- Extension triggers additional payments to EXEL

#### **GSK** decisions at PoC

- □ PoC defined as either a predetermined level of activity or
- □ Completion of a pre-determined body of work

Substantial downstream economics to EXEL if GSK selects

- Milestones
- □ Double digit royalties
- □ Co-promotion rights

### **GSK Selection Milestones**



(\$ in MM)

#### **Contract Year 6 through Oct '08**

# of Picked	Milestones
1	35.0
2	55.0
3	75.0
<b>Total Milestones</b>	165.0

- □ First milestone is reduced by \$36M to pay off 2005 milestone advance → XL880 milestone would be cash and revenue neutral
- Milestones on Non-Symphony compounds are applied towards paying down the GSK loan
- Milestones on <u>Symphony compounds</u> are increased by 25% and are not applied towards paying down the GSK loan

## **GSK Loan**



(\$ in MM)

- □ Total Loan Principal Amount equals \$85M
  - □ Accrues 4% interest per annum
  - □ Accrued interest YE 2007 totals \$13.6M
- Loan matures in 3 tranches beginning one year after the collaboration ends
  - □ Currently first payment due Oct '09 but could be later if GSK extends collaboration
  - □ GSK selection milestone for non-Symphony Compounds are applied towards loan
  - □ Remaining amounts are repayable in cash or stock at EXEL's discretion

## Collaborations Review



#### BMS – 3 IND Ready Compounds

- □ \$20M milestone per compound at opt-in (\$60M received at signing)
- □ Share clinical world wide development cost 65% (BMS) 35% (EXEL)
- □ 50/50 US profit share; Royalties and milestones ex US

#### Genentech – XL518 (MEK)

- □ Milestone at opt-in (\$40M received at signing)
- □ Genentech to pay all development costs post opt-in
- □ 30 50% US profit share; Double digit royalties ex US

#### GSK – Up to 3 Compounds at PoC

- □ Opt-in milestones
- □ GSK to pay all costs post opt-in
- □ Double digit royalties, milestones and co-promotion rights for North America

#### **Up to Five Opt-in Decisions in 2008**



# Closing Remarks George Scangos, President & CEO



## Exelixis 2007 Accomplishments

#### XL880 (Met, VEGFR)

- Positive phase 2 data in PRC
- Submitted POC package to GSK early, in September

#### XL184 (Met, VEGFR, Ret)

- Impressive data in medullary thyroid cancer
- On track for NSCLC phase 2 by Q1 2008

#### XL647 (EGFR, Her2, VEGFR)

- Positive phase 2 data in first line NSCLC
- Retained rights post GSK decision

#### XL147 (PI3K), XL765 (PI3K, mTOR)

- First clinical data for PI3K inhibitors
- PD markers indicative of target modulation
- Potential blockbuster drugs

#### XL019 (JAK2)

- Phase 1 data (ASH, 12/10)
- Leading JAK2 inhibitor
- Rapid, low-risk route to market



## Exelixis 2007 Accomplishments

#### 5 Additional phase 1 programs moved forward

- XL844 (Chk1, Chk2)
- XL518 (MEK)
- XL281 (Raf)
- XL228 (IGF1R, Abl, Src)
- XL418 (Akt, S6K)

#### XL784 (Adam 10, MMP2)

- Completed phase 2 study in patients with diabetic nephropathy
- Missed end-point, considering options

#### Filed 4 INDs

Advanced 5 compounds into development



## Exelixis Partnership Accomplishments

#### 3 POC packages submitted to GSK

- XL647 rights to Exelixis
- XL880 decision by mid-December
- XL784 decision by January

Significant progress in XL518 collaboration with Genentech

BMS initiated clinical studies on XL652 (LXR agonist)

Wyeth initiated clinical studies on XL335 (FXR agonist)

# Exelixis 2007 Business Accomplishments



#### Signed newest collaboration with BMS

- \$60 million upfront
- \$60 million in near-term milestones
- 50% ownership of 3 compounds

#### Divested majority of assets of Exelixis Plant Sciences

- Total deal worth up to \$60 million
- \$22.5 million guaranteed (\$18.5 mm in 2007)

#### Sold 80.1% of Artemis

- \$20 million upfront
- Retained preferred customer status and 19.9%

#### \$70 million equity financing

#### Three POC compounds presented to GSK

- XL647 rights retained by Exelixis
- XL880 decision in mid-December
- XL784 decision in January

#### Managed cash

- Year end 06 cash \$260 million
- Year end 07 cash >\$290 million



## Pipeline Decisions

#### Stop development of XL999

Mechanism-related toxicity

#### Focused PI3K pathway assets on XL765 and XL147

- Stop development of XL418 low exposure after oral dosing
- XL765 and XL147 look encouraging in phase 1

#### Hold development XL784

- Failed to meet primary endpoint, but encouraging data
- Awaiting GSK decision
- Exploring options
- No near-term expenditures

#### Spend resources on other compounds in pipeline with excellent data sets

- XL647, XL765, XL147, XL019, XL184, XL820, XL844, XL518, XL281, XL228
- New compounds into development
- Balance partnered and wholly-owned compounds



#### **Exelixis Assets**

## "You have partnered away all your assets and have given away the future of the company"

We have a lot of proprietary assets: XL647, XL147, XL765, XL019, XL139, XL888, GSK compounds, DCs

# "You have so many assets, how are you going to prioritize and pay for them all?"

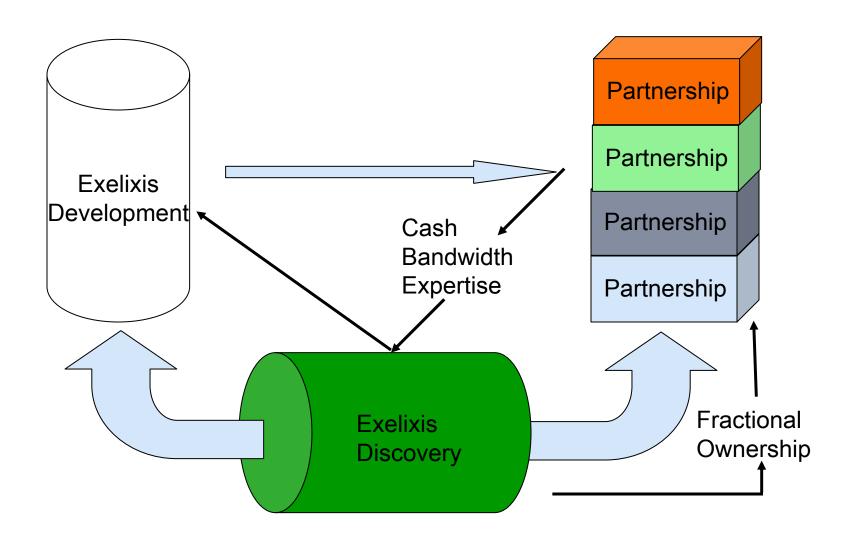
We have done a lot of partnering/licensing: GSK, BMS metabolism, BMS oncology, Genentech MEK, Genentech Notch, Wyeth, Sankyo. Others in discussion.

We have a lot of assets.

We can partner many compounds and retain many others.



## **Exelixis Compound Strategy**





## Large Drug Discovery Capacity

Dynamic pipeline: Ability to cull out weak compounds and invest resources in high potential compounds

Short term cash: Partnerships bring more cash than the actual cost of assets and offset cost of proprietary programs

Long term revenues: Fractional ownership of compounds that we otherwise wouldn't have

Bandwidth: Transferring clinical development responsibility to partner frees up internal resources

Expertise: Many pharma companies have substantial expertise in oncology development and translational medicine

Large discovery capacity does not increase cash utilization and allows Exelixis to retain fractional ownership of compounds that it otherwise wouldn't have.



## **Exelixis Cash Management**

Year	Beginning Cash	Equity Offering Proceeds	Ending Cash	Cash Difference
2004	\$242	\$0	\$171	
2005	\$171	\$50	\$210	-\$10
2006	\$210	\$90	\$263	-\$37
2007	\$263	\$72	>\$290	<-\$45



## Ownership of Exelixis Assets

Compound	Projected Phase by mid 08	<u>Ownership</u>
XL647	2/3	97% (subject to Symphony)
XL765	1/2	100%
XL147	1/2	100%
XL019	2/3	100%
XL518	1/2	100% (30-50% if Genentech opts in)
XL880	2	
XL784	2	
XL184	2	
XL820	2	Up to 3 subject to milestones and
XL218	1	royalties if GSK opts in; balance 100%
XL281	1	(XL784 subject to Symphony)
XL844	1	
XL652	1	Milestones, double digit royalties
XL335	1	Milestones, double digit royalties



## Symphony

#### Symphony provided \$80 million to finance XL999, XL784, XL647

- \$40 million in mid 05
- \$40 million in mid 06
- In return for cash, IP on the compounds was transferred to Symphony
- Exelixis can reacquire compounds by repaying \$80 million plus 25% IRR
- XL647 is main driver of value today

#### At end of Q3, \$38 million left in vehicle

- Expect to use for advancement of XL647
- Phase 2 daily dosing first line NSCLC trial
- Phase 2 trial in patients who responded to and then failed another EGFR antagonist
- Data available mid-year 2008

#### Partnering discussions ongoing

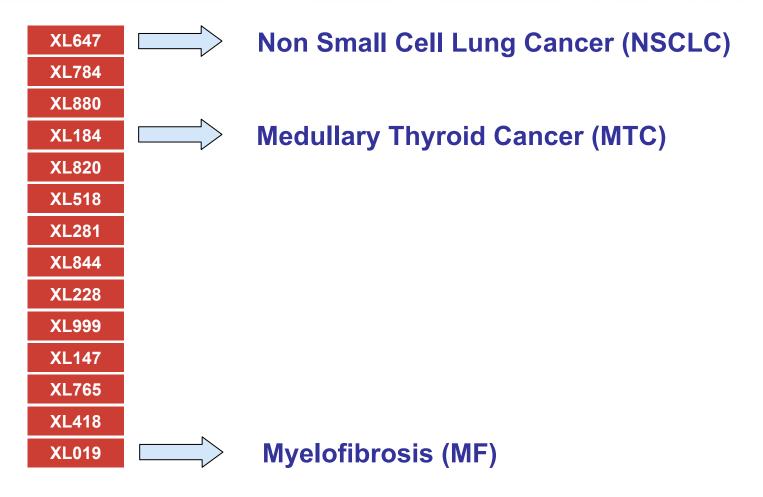
- Positive clinical data will increase upfront value (especially relapsed EGF-antagonist responders)
- Upfront payment can be applied to Symphony

#### Risk remains with Symphony

- XL647 looks good, but this is drug development after all
- Unexpected compound failure will be at Symphony's expense

# Exelixis Development Portfolio in 2008: Potential Pivotal Trials

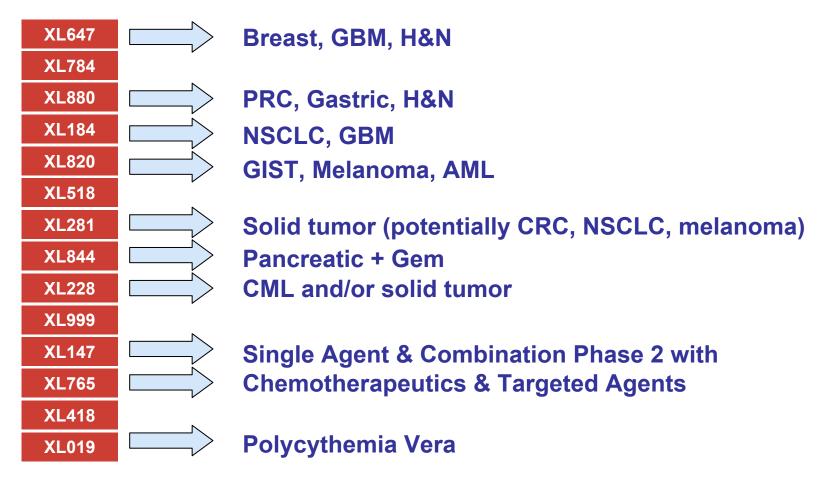




The compounds XL647, XL784 and XL999 have been out-licensed to Symphony Evolution, Inc. and are subject to a repurchase option. Pursuant to a product development and commercialization agreement between Exelixis and GlaxoSmithKline, GlaxoSmithKline has the option, after completion of clinical proof-of-concept by Exelixis, to elect to develop up to three compounds in Exelixis' product pipeline, including XL784 and XL999, but excluding XL647, XL518, XL147, XL765 and XL019. Finally, the compound XL518 is the subject of a co-development collaboration between Genentech and Exelixis.

# Exelixis Development Portfolio in 2008: Potential Phase 2 Compounds





The compounds XL647, XL784 and XL999 have been out-licensed to Symphony Evolution, Inc. and are subject to a repurchase option. Pursuant to a product development and commercialization agreement between Exelixis and GlaxoSmithKline, GlaxoSmithKline has the option, after completion of clinical proof-of-concept by Exelixis, to elect to develop up to three compounds in Exelixis' product pipeline, including XL784 and XL999, but excluding XL647, XL518, XL147, XL765 and XL019. Finally, the compound XL518 is the subject of a co-development collaboration between Genentech and Exelixis.



## Exelixis 2008 Goals

Opt-in decisions from GSK, BMS, Genentech

Additional substantial partnership(s)

Three new INDs

Three new Development Candidates

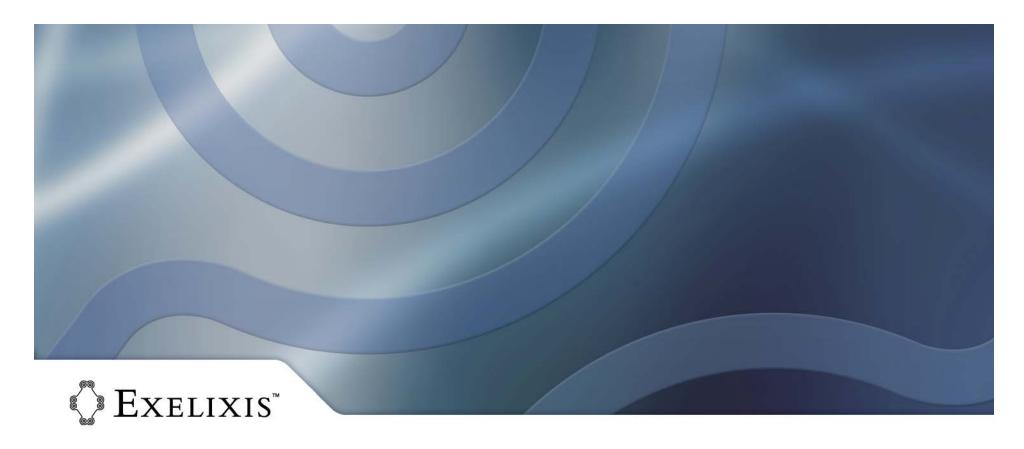
Build out commercial infrastructure

Manage cash, maximize output/dollar



## Exelixis Senior Management Q&A Panel

George Scangos, PhD, CEO
Michael Morrissey, PhD, President R&D
Frank Karbe, EVP & CFO
Gisela Schwab, MD, SVP and CMO
Peter Lamb, PhD, SVP and CSO



## Exelixis 3<sup>rd</sup> Annual R&D Day

December 5<sup>th</sup> 2007 Mandarin Oriental Hotel New York, NY