NASDAQ: AXSM

AXSOME THERAPEUTICS

November 2017

Forward-Looking Statements & Safe Harbor

Certain information contained in this presentation may include “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. We may, in some cases, use terms such as “predicts,” “believes,” “potential,” “continue,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “may,” “could,” “might,” “will,” “should” or other words that convey uncertainty of future events or outcomes to identify these forward-looking statements. In particular, the Company’s statements regarding trends and potential future results are examples of such forward-looking statements. The forward-looking statements include risks and uncertainties, including, but not limited to, the success, timing and cost of our ongoing clinical trials and anticipated clinical trials for our current product candidates, including statements regarding the timing of initiation and completion of the trials, interim analyses and receipt of interim results; the timing of and our ability to obtain and maintain U.S. Food and Drug Administration or other regulatory authority approval of, or other action with respect to, our product candidates; the Company’s ability to obtain additional capital necessary to fund its operations; the Company’s ability to generate revenues in the future; the Company’s ability to successfully defend its intellectual property or obtain the necessary licenses at a cost acceptable to the Company, if at all; the successful implementation of the Company’s research and development programs; the enforceability of the Company’s license agreements; the acceptance by the market of the Company’s product candidates, if approved; and other factors, including general economic conditions and regulatory developments, not within the Company’s control. These factors could cause actual results and developments to be materially different from those expressed in or implied by such statements. Forward-looking statements are not guarantees of future performance, and actual results may differ materially from those projected. The forward-looking statements are made only as of the date of this presentation and the Company undertakes no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstance.

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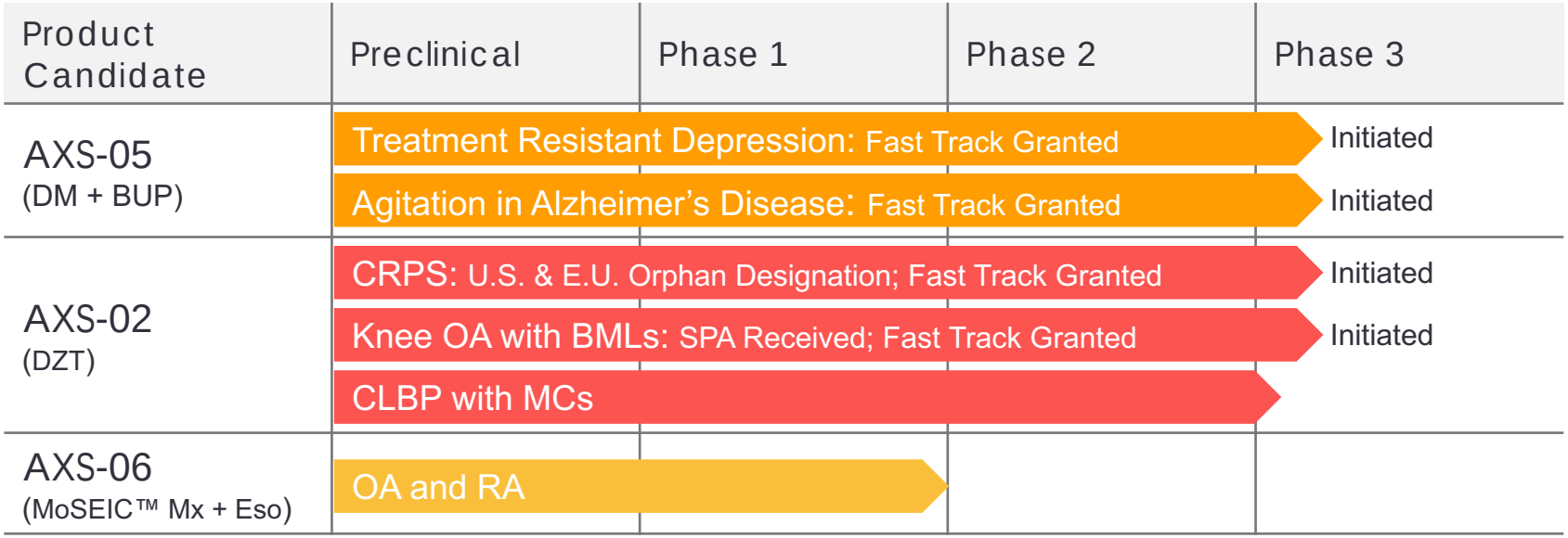
Developing novel therapies for CNS disorders.

Axsome is addressing growing markets, where current treatment options are limited or inadequate, by leveraging well-characterized compounds to create novel therapeutics to meet unmet medical needs and improve the lives of patients.

Our Candidates and Pipeline

- Three differentiated late-stage assets targeting significant and growing markets:
  - AXS-02: oral, non-opioid, long-acting, potentially first-in-class therapeutic for chronic pain
  - AXS-05: novel therapeutic combination with multiple mechanisms for CNS disorders
  - AXS-06: rapidly-absorbed, once-daily, non-opioid, pain therapeutic with a gastroprotectant
- Results from 3 ongoing Phase 3 trials expected over the next 12 months.
- Novel indications, positive proofs of concept.
- Patent protection to 2034, Worldwide rights.



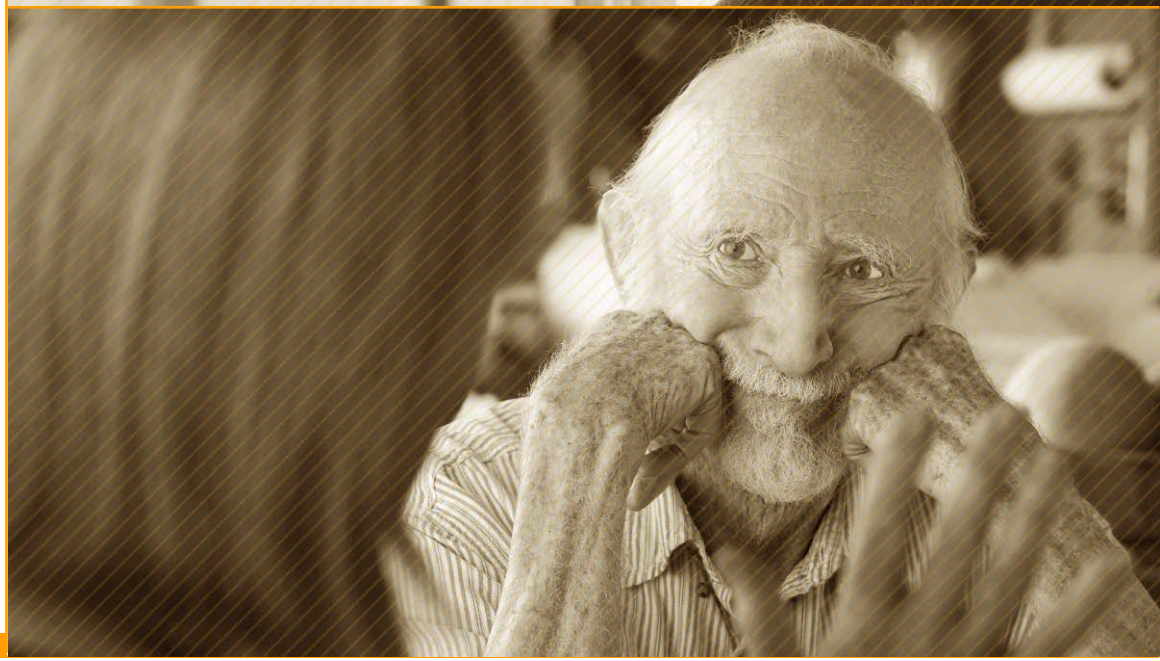
Abbreviations: BML = Bone Marrow Lesions; BUP = Bupropion; CLBP = Chronic Low Back Pain; CRPS = Complex Regional Pain Syndrome; DM = Dextromethorphan; DZT = Disodium Zoledronate Tetrahydrate; Eso = Esomeprazole; MC = Modic Changes; Mx = Meloxicam;OA = Osteoarthritis; RA = Rheumatoid Arthritis; SPA = Special Protocol Assessment.

AXS-05

Dextromethorphan (DM) + Bupropion (BUP)

Novel therapy for CNS disorders:

- Treatment Resistant Depression (TRD)
- Agitation in Alzheimer's Disease (AD)



CNS Disorders: Mechanisms of Action

	Pharmacodynamic Synergy		
Mechanism of Action	DM	BUP	**AXS-05** DM+BUP
NMDA Receptor Antagonist	✓		✓
Sigma-1R Agonist	✓		✓
Norepinephrine Reuptake Inhibitor	✓	✓	✓
Serotonin Reuptake Inhibitor	✓		✓
Dopamine Reuptake Inhibitor		✓	✓
Nicotinic ACh Receptor Antagonist		✓	✓

DM = Dextromethorphan; BUP = Bupropion. ✓ Present

CNS Disorders: Mechanisms of Action and Relevant Indications

Mechanism of Action	Pharmacodynamic Synergy: DM	BUP	AXS-05 DM+BUP	ADHD	Anxiety	Alzheimer's	Depression	Fibromyalgia	OCD	Pain	Smoking cessation	Related Agents[2]
NMDA Receptor Antagonist	✓		✓			■	■			■		• Ketamine • Memantine (Namenda®)
Sigma-1R Agonist	✓		✓			■	■		■			• Fluvoxamine (Luvox®) • Donepezil (Aricept®)
Norepinephrine Reuptake Inhibitor	✓	✓	✓				■	■		■		• Duloxetine (Cymbalta®) • Venlafaxine (Effexor®)
Serotonin Reuptake Inhibitor	✓		✓		■		■		■			• Escitalopram (Lexapro®) • Fluoxetine (Prozac®) • Sertraline (Zoloft®)
Dopamine Reuptake Inhibitor		✓	✓	■			■				■	• Bupropion (Wellbutrin®)
Nicotinic ACh Receptor Antagonist		✓	✓	■			■				■	• Bupropion (Wellbutrin®)

DM = Dextromethorphan; BUP = Bupropion. ✓ Present ■ Relevant

1. Indications listed are associated with the mechanism of action and are not related to either DM or BUP, unless specifically noted.
2. Agents do not contain DM or BUP, unless specifically noted.

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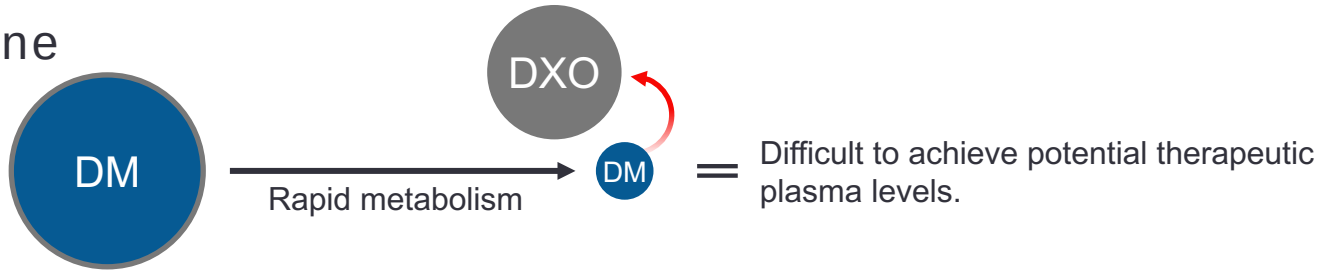
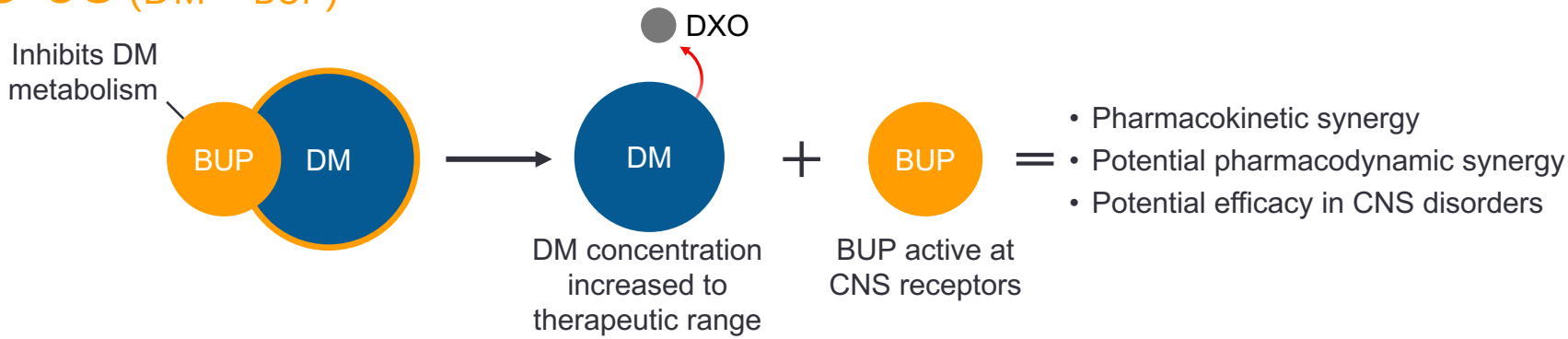
CNS Disorders:
Novel Therapy for CNS Disorders

DM Alone



AXS-05 (DM + BUP)



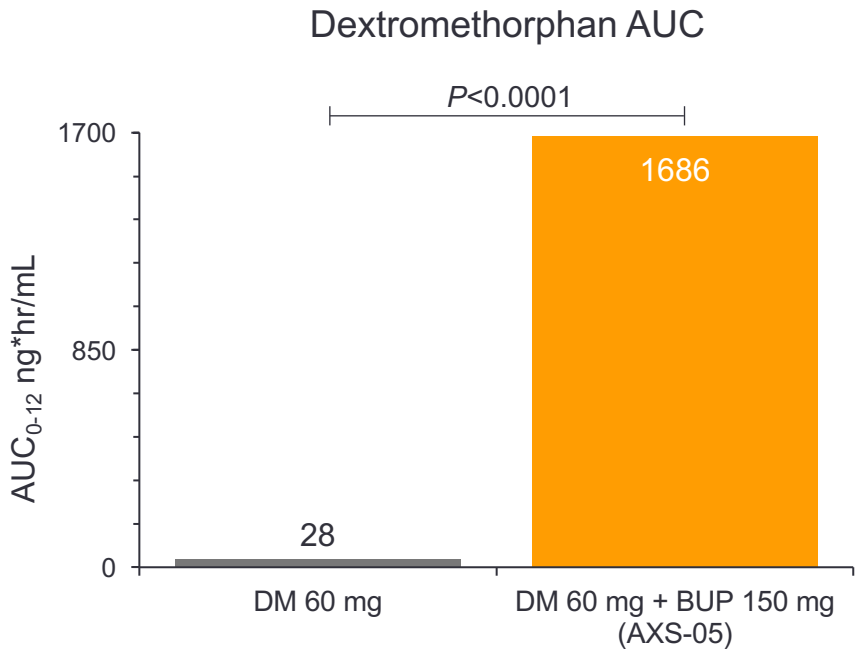
DM = Dextromethorphan; DXO = Dextrorphan; BUP = Bupropion.

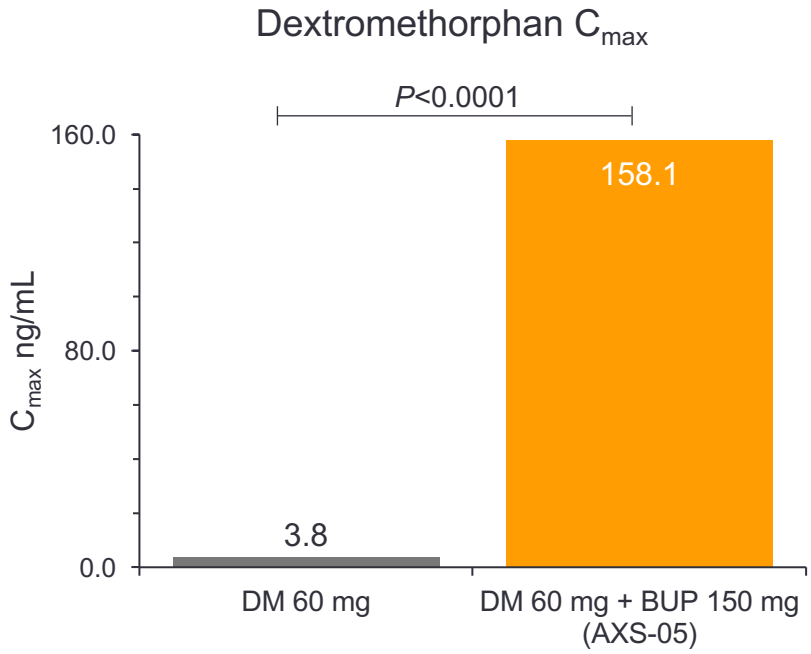
- Phase 1 trials with AXS-05 completed:
  - Significant increase in DM plasma levels.
- Phase 3 trials in TRD and AD Agitation initiated.

IP Overview

- 22 issued patents – protection through 2034.

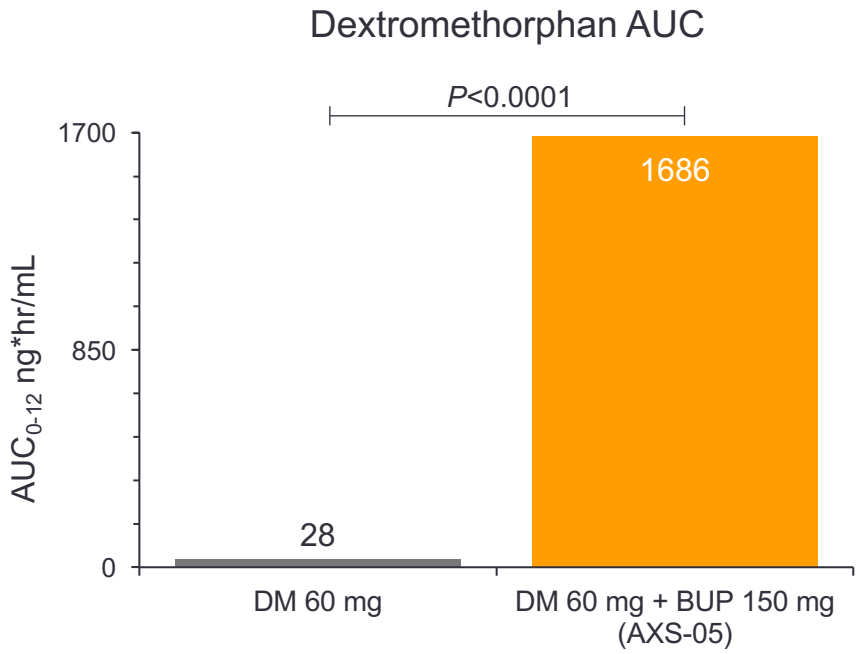
CNS Disorders: Phase 1 Results

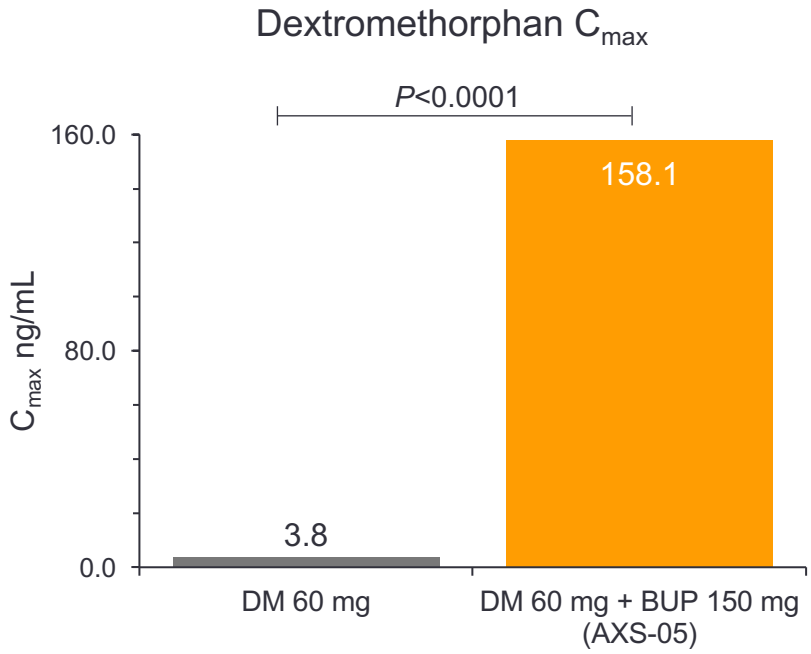




Axsome data on file.
†DM, Dextromethorphan; BUP, Bupropion.

CNS Disorders: Phase 1 Results





Dose†	AUC_{0-12} ng*hr/mL
DM 20 mg + Q 10 mg	525
DM 30 mg + Q 10 mg	883

Dose†	C_{max} ng/mL
DM 20 mg + Q 10 mg	53
DM 30 mg + Q 10 mg	85

Axsome data on file.
† Nuedexta® NDA 021879, FDA Clinical Pharmacology Review.
DM, Dextromethorphan; Q, Quinidine; BUP, Bupropion.

CNS Disorders: TRD Overview

- Major Depressive Disorder (MDD) is a leading cause of disease burden in the US.[4]
- 63% and 44% of MDD patients have inadequate response to initial therapy and second line therapy, respectively.[2]
- Only 1 approved drug for TRD = unmet medical need.
- AXS-05 combines the MOA of 4 distinct anti-depressant drug classes into one novel oral therapeutic.
- DM antidepressant effects demonstrated preclinically and clinically.
- Phase 3 ongoing.

3M patients in the U.S.[1-3]

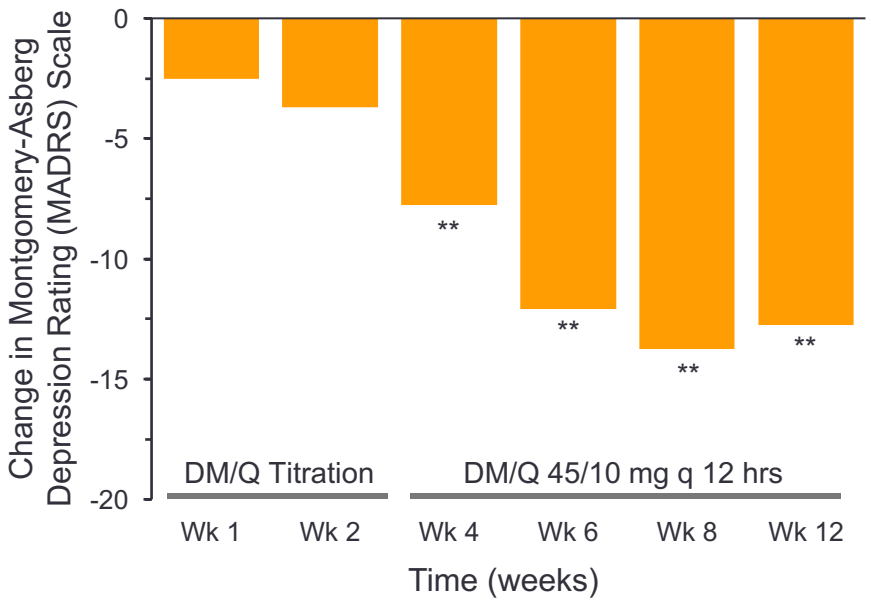
Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-05	Treatment Resistant Depression: Fast Track Granted			Initiated

1. Marcus SC, Olfson M. *Arch Gen Psychiatry* 2010;67:1265-1273.
2. Rush AJ, et al. *Am J Psychiatry* 2006;163:1905-1917.
3. U.S. Census Bureau, Population April 1, 2010 to July 1, 2013.
4. Mathers CD, *PLoS Med* 2006; 3(11): e442.

CNS Disorders: TRD Clinical Rationale

- DM and metabolic inhibitor reduce depressive symptoms in TRD and in AD.

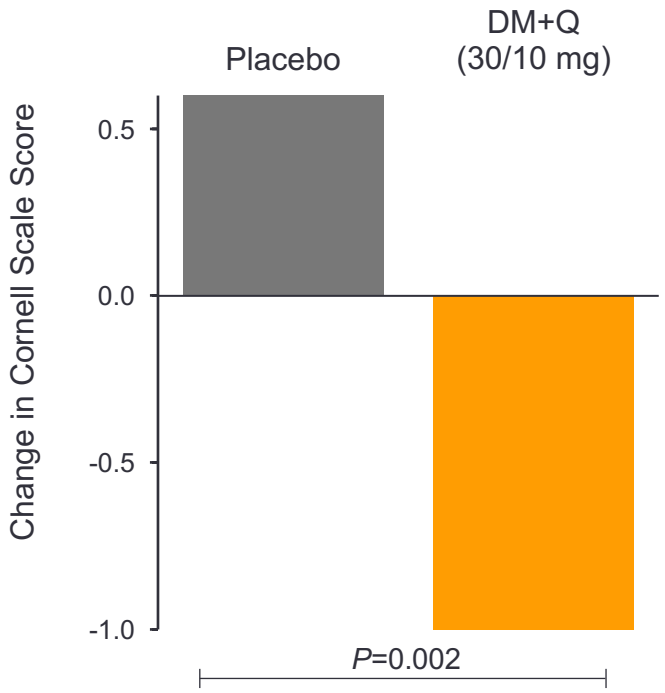
Symptom Reduction in TRD Patients Treated with DM and Metabolic Inhibitor[1]



- Failed 2 to 10 prior treatments
- 45% of patients had ≥ 50% reduction in MADRS

** *P*<0.01 versus baseline

Depressive Symptom Reduction in AD Agitation Patients Treated with DM and Metabolic Inhibitor[2]



1. Murrough J, et al. *J Affect Disord*. 2017;218:277-283.
2. Cummings J, et al. *JAMA*. 2015;314:1242-1254.

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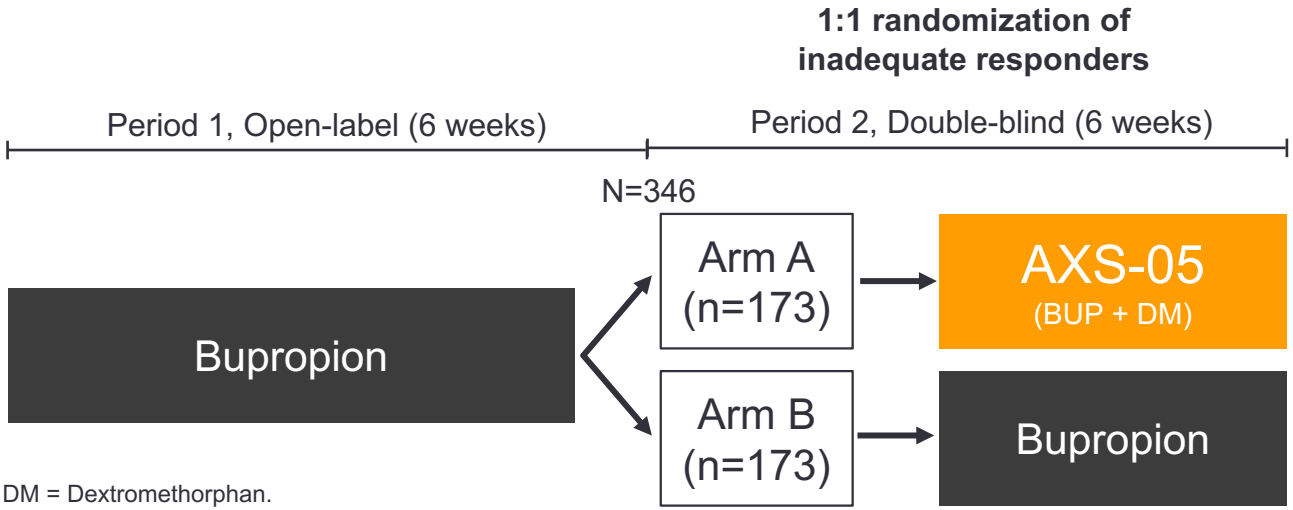
CNS Disorders: TRD Phase 3 Design

Stride1Study AXS-05

A Phase 3 trial to assess the efficacy and safety of AXS-05 in the treatment of TRD.



BUP = Bupropion; DM = Dextromethorphan.

- **Primary Endpoint:** Change in depression score from randomization to end of study, measured using the Montgomery-Asberg Depression Rating Scale (MADRS).
- **Key Inclusion Criteria:**
  - Male or female 18-65 years old
  - History of inadequate response to 1 or 2 adequate antidepressant treatments

CNS Disorders: Agitation in AD Overview

- Agitation and aggression seen in approximately 45% of AD patients during 5-year period.[3]
- Characterized by emotional distress, aggressive behaviors, disruptive irritability, disinhibition, and caregiver burden.[4]
- Associated with[4,5]:
  - Accelerated cognitive decline
  - Earlier nursing home placement
  - Increased mortality
- No approved medication = unmet medical need.
- Proof of concept: DM plus metabolic inhibitor reduced agitation in AD patients.
- Phase 2/3 ongoing.

2M patients in the U.S.[1,2]

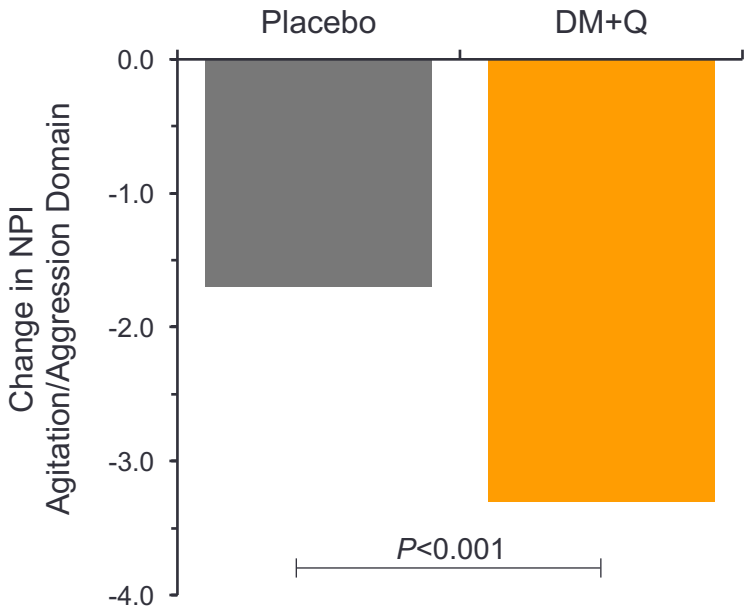
Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-05	Agitation in Alzheimer's Disease: Fast Track Granted			Initiated

1. Ryu, SH, et al. *Am J Geriatr Psychiatry*. 2005;13:976-983.
2. Hebert, LE, et al. *Neurology*. 2013;80:1778-1783.
3. Steinberg M, et al. *Int J Geriatr Psychiatry*. 2008;2:170-177.
4. Antonsdottir IM, et al. *Expert Opin Pharmacother*. 2015;11:1649-1656.
5. Rabins PV et al. Alzheimers Dement. 2013; 9:204-207.

CNS Disorders: Agitation in AD Clinical Rationale

- Randomized, double-blind, placebo-controlled, two-stage trial.
  - Placebo (n=125), 30 mg DM + 10 mg quinidine (Q) (n=93), for stage 1.
- DM+Q treatment reduced agitation/ aggression in AD by 46% vs. 24% for placebo (P<0.001)—primary endpoint.
- Statistically significant improvement in multiple secondary endpoints.
- DM plasma levels achieved with AXS-05 in target therapeutic range.
- Potential for additional contribution from bupropion component of AXS-05.

Change in Agitation/Aggression Scores in AD with DM and Metabolic Inhibitor Quinidine (Q)

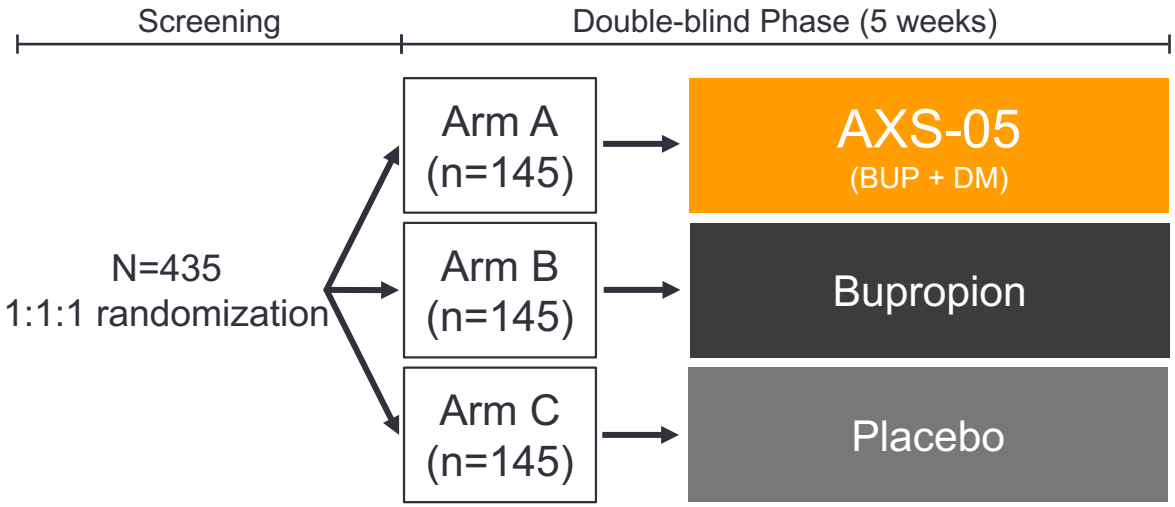


Cummings J, et al. *JAMA*. 2015;314:1242-1254.

CNS Disorders:
Agitation in AD Phase 2/3 Design

ADVANCE STUDY

A Phase 2/3 trial to assess the efficacy and safety of AXS-05 in the treatment of Agitation in AD.



BUP = Bupropion; DM = Dextromethorphan.

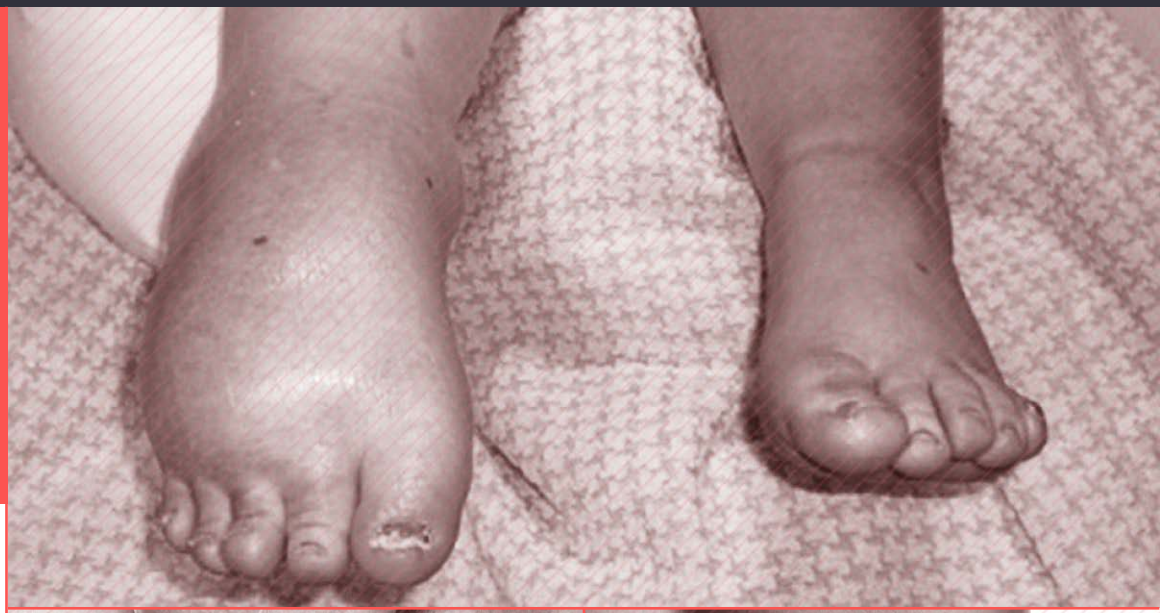
- **Primary Endpoint:** Cohen-Mansfield Agitation Inventory (CMAI).
- **Key Inclusion Criteria:**
  - Diagnosis of probable Alzheimer's disease
  - Clinically significant agitation
- Interim analysis planned.

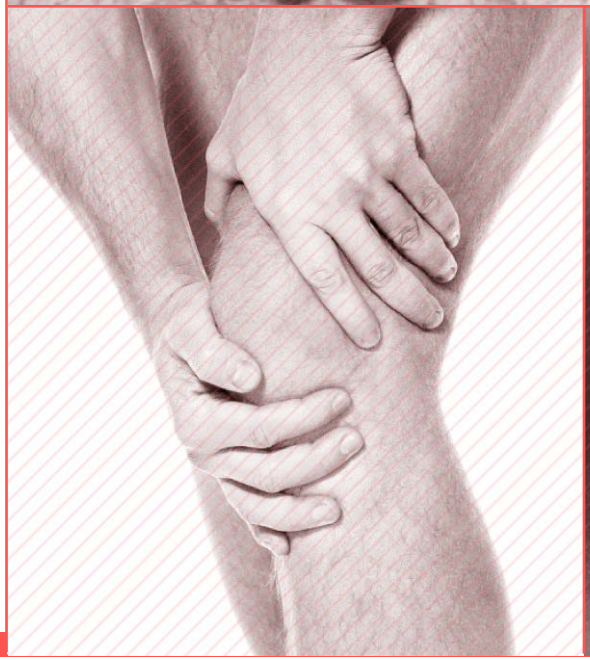
AXS-02

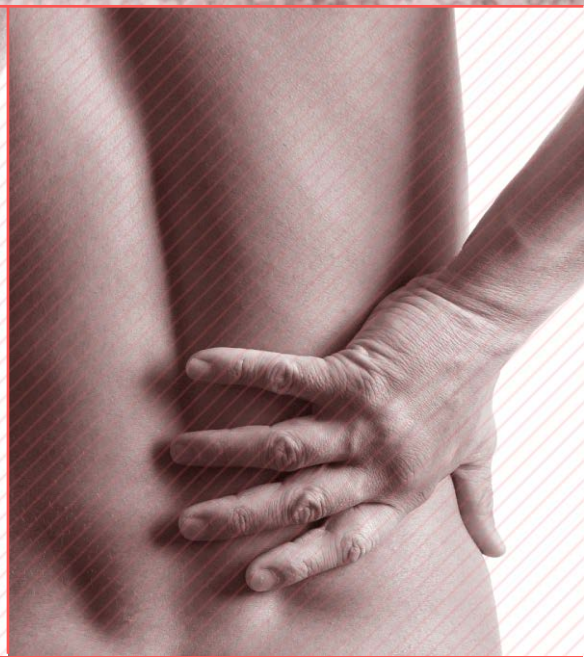
Disodium Zoledronate Tetrahydrate

Novel therapy for chronic pain:

- Complex Regional Pain Syndrome (CRPS)
- Knee Osteoarthritis (OA) with Bone Marrow Lesions (BMLs)
- Chronic Low Back Pain (CLBP) with Modic Changes (MCs)

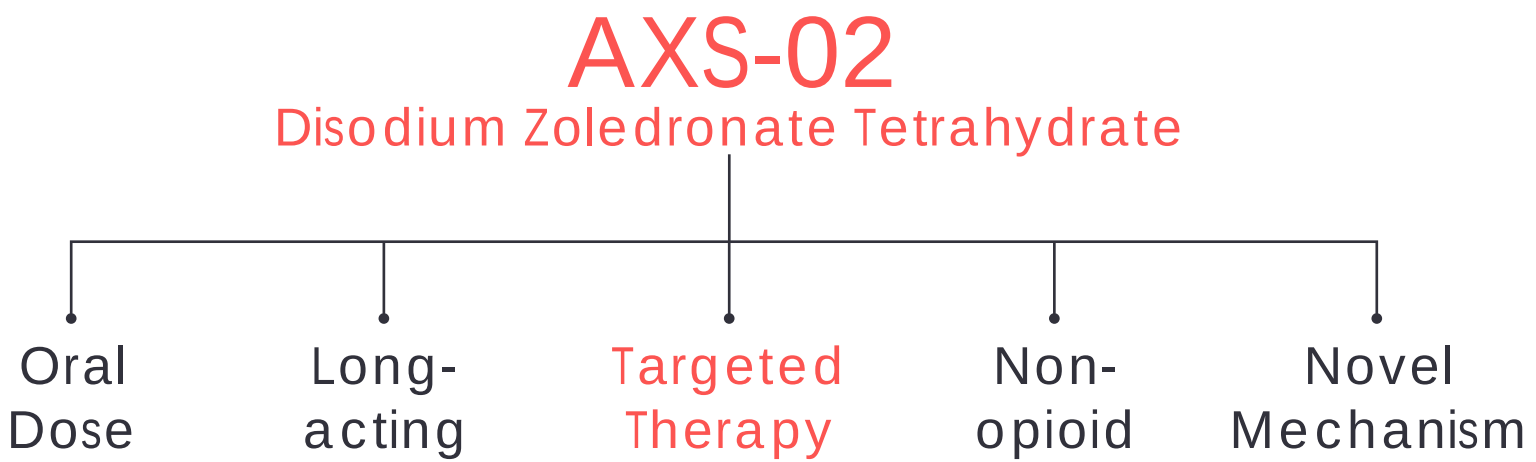






CRPS image source: Voet C, et al. *F1000Reseach*. 2014;3:97.

Chronic Pain: Differentiated Therapy



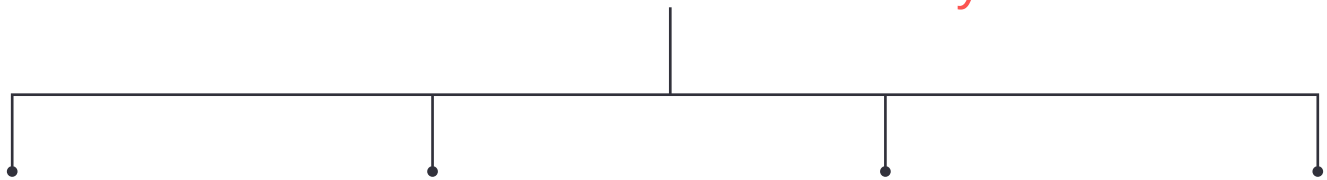
IP Overview

- 59 issued patents* – protection through 2034.
- Drug delivery, pharmacokinetic, composition of matter, and method of use claims.
- U.S. Orphan Drug Designation (7 years exclusivity).
- E.U. Orphan Medicinal Product Designation (10 years exclusivity, 12 years with PIP).

*Claims cover AXS-02 and related substances and disease indications.

Chronic Pain:
Therapy via Multiple Mechanisms of Action

AXS-02
Disodium Zoledronate Tetrahydrate



Inhibits bone-resorbing osteoclasts

- Decreased bone resorption.
- Farnesyl pyrophosphate synthase (FPPS).[1]

Downregulates acid-sensing* ion channels

- ASIC1a expression.
- ASIC activation.[2]
- TRPV1 activation.[2,3]

Reduces pro-inflammatory cytokine production

- TNFα production.[4]
- IL-6 production.[5]
- IL-8 production.[6]

Anti-angiogenic

- Angiogenesis.[7]
- c-FOS expression.[2]

* Acid is a well known cause of pain.

1. Green JR, Rogers MJ. *Drug Dev Res.* 2002;55:210-24.
2. Nagae M, et al. *Bone.* 2006;39:1107-15.
3. Abe Y, et al. *J Bone Miner Metab.* 2015;33:125–134.
4. Wolf AM, et al. *Haematologica.* 2006;91:1165-71.
5. Derenne S, et al. *Bone Miner Res.* 1999;14:2048-56.
6. Stathopoulos GT, et al. *Am J Respir Crit Care Med.* 2008;178:50-9.
7. Misso G, et al. *Cancer Biol Ther.* 2012;13:1491-500.

Chronic Pain: Lead Indications and Market Potential

Complex Regional Pain Syndrome (CRPS)

- Localized bone resorption.[1,2]
- Increased pro-inflammatory cytokines.[3]

80,000 new cases per year in the U.S.[4]

Knee Osteoarthritis (OA) with Bone Marrow Lesions (BMLs)

- BMLs are associated with pain in knee OA.[5]
- BMLs: Increased bone turnover; Decreased bone mineral density.[6,7]

7M patients in the U.S.[11-14,16]

Chronic Low Back Pain (CLBP) with Modic Changes (MCs)

- MCs are associated with low back pain.[8]
- MCs: Increased bone turnover, pro-inflammatory cytokines, vascular density.[9,10]

1.6M patients in the U.S.[11,12,15,16]

1. Capello ZJ, et al. *J Hand Surg Am.* 2012;37:288-296.
2. Krämer HH, et al. *Pain.* 2014;155:889–895.
3. Parkitny L, et al. *Neurology.* 2013;80:106-117.
4. Moseley GL, et al. *J Pain.* 2014;15:16-23.
5. Driban JB, et al. *Arthritis Res Ther.* 2013;15:R112.
6. Hunter DJ, et al. *Arthritis Res Ther.* 2009;11:R11.
7. Kazakia GJ, et al. *Osteoarthritis Cartilage.* 2013;21:94-101.
8. Zhang Y, et al. *Eur Spine J.* 2008;17:1289-1299.
9. Järvinen J, et al. *Spine: ISSLS Society Meeting Abstracts.* Oct. 2011(vol suppl, abstract GP127).
10. Rahme R, Moussa R. *Am J Neuroradiol.* 2008;29:838–42.
11. Lawrence RC, et al. *Arthritis Rheum.* 2008;58:26-35.
12. Zhang Y, Jordan. *JM Clin Geriatr Med.* 2010;26:355–69.
13. Tanamas SK, et al. *Rheumatology.* 2010;49:2413–19.
14. Guermazi A, et al. *BMJ.* 2012;345:e5339.
15. Jensen OK, et al. *Spine J.* Feb. 14, 2014;pii:S1529-9430(14)00214-9.
16. U.S. Census Bureau, Population April 1, 2010 to July 1, 2013.

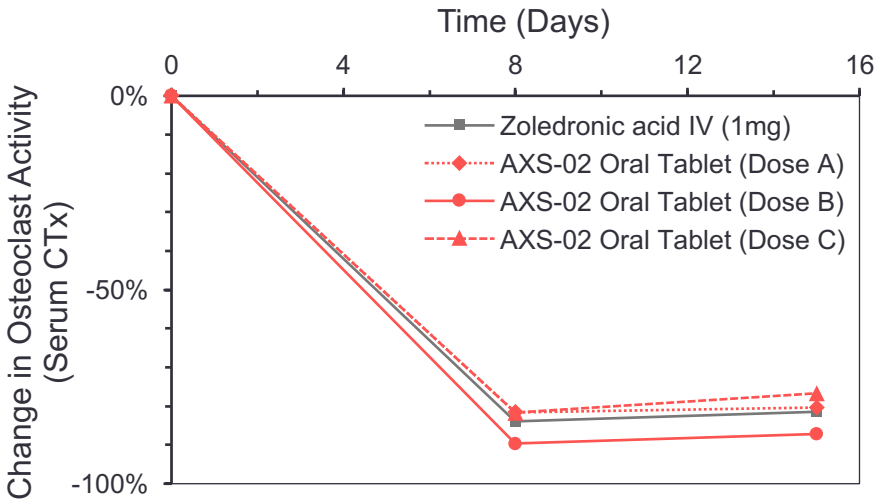
Chronic Pain: Phase 1 Results and Oral Preference

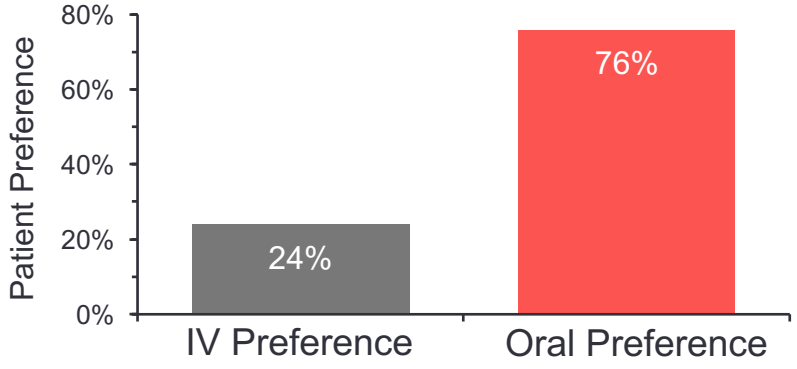
Phase 1 Summary

- Oral administration of AXS-02 resulted in rapid absorption of zoledronic acid.
- Significant plasma levels attained.
- Robust pharmacodynamics (PD) effects.
- PD relevant to targeted pain indications.
- AXS-02 was well tolerated.

Patient-stated Preference for Oral vs IV[1,2]

- Assessed in 6,097 patients treated 3 years with oral or IV bisphosphonates:
  - Oral: clodronate or ibandronate, daily
  - IV: zoledronic acid, monthly, then every 6 months
- Oral preference at randomization and therapy completion: 76%, 73% respectively.
- Potential safety advantage.

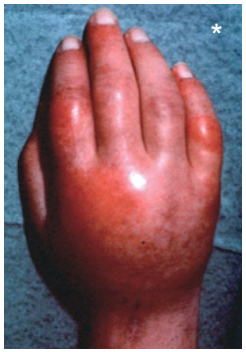




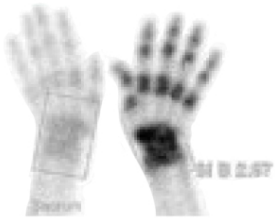
1. Gralow, et al. *J Clin Oncol.* 33, 2015 (suppl; abstr 503).
2. Gralow, et al. *J Clin Oncol.* 32.5, 2014 (suppl; abstr 558).

Chronic Pain: CRPS Overview

- Severe, continuous, disabling pain in a limb:
  - Sensation described as burning, stabbing, grinding, throbbing
- Localized bone resorption,[1,2] increased pro-inflammatory cytokines.[3]
- Common pain meds (e.g., NSAIDs, opioids, gabapentin) are considered ineffective.[4]
- No approved drug = high unmet need.
- Phase 3 ongoing.
- Issued U.S. patents: protection into 2034 – uses of oral zoledronic acid for CRPS.



Bone scan: hands**



Orphan Disease

80,000 new cases per year in the U.S.[5]

Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-02	CRPS: U.S. & E.U. Orphan Designation; Fast Track Granted			Initiated

* Goebel A, Complex regional pain syndrome in adult. *Rheumatology (Oxford).* 2011;50(10):1739-1750, by permission of Oxford University Press.
** Sampath S, et al. *Indian J Nucl Med.*2013;Jan-Mar;28(1):11–16.

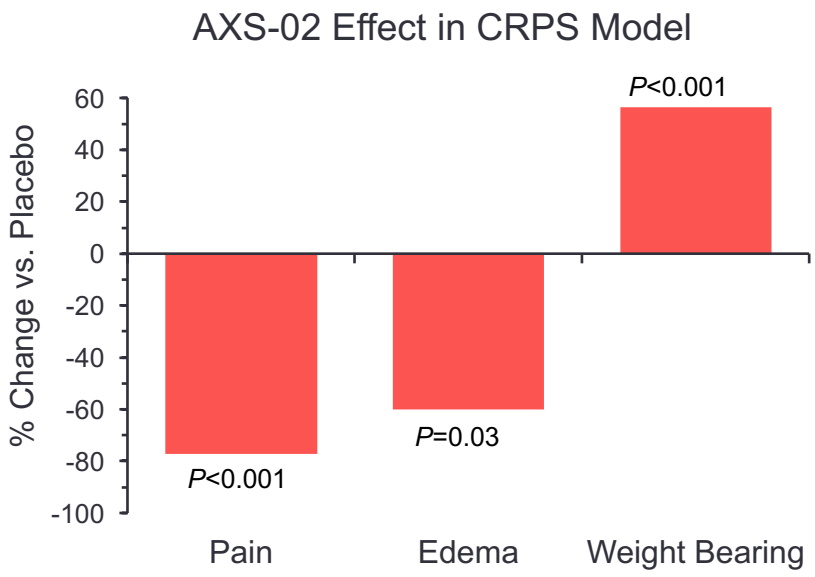
1. Capello ZJ, et al. *J Hand Surg Am.* 2012;37:288-296.
2. Krämer HH, et al. *Pain.* 2014;155:889–895.
3. Parkitny L, et al. *Neurology.* 2013;80:106-117.
4. Bruehl S. *Anesthesiology.* 2010;113:713-725.
5. Moseley GL, et al. *J Pain.* 2014;15:16-23.

AXSOME THERAPEUTICS

Chronic Pain: CRPS Preclinical and Clinical Rationale

Preclinical:

- Well validated CRPS model replicates: Inciting trauma, clinical presentation, natural history, and pathologic changes.
- Oral administration of AXS-02: Significant pain and edema reduction; improved weight bearing.



Clinical:

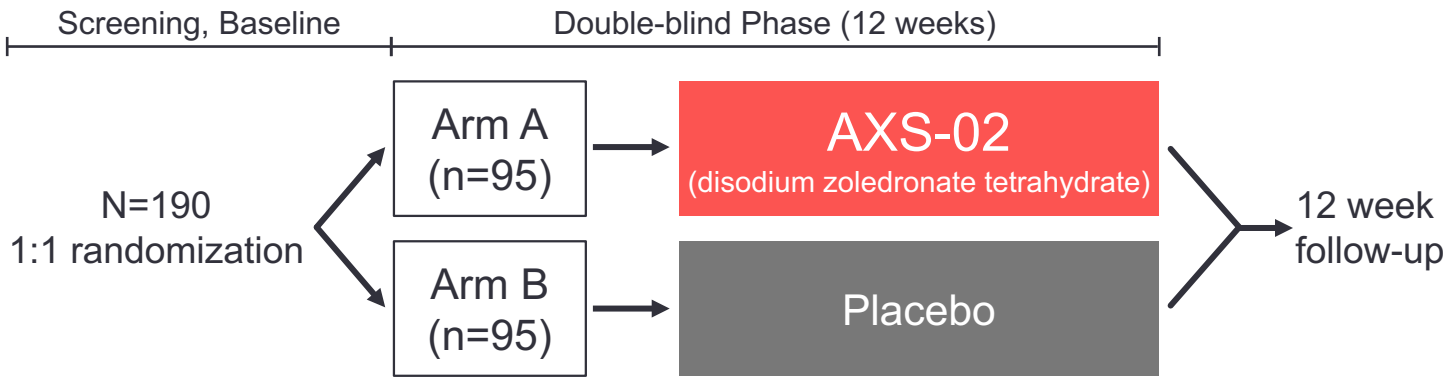
- Clinical Trials: 5 randomized, double-blind, placebo-controlled trials, with 4 different bisphosphonates.[1-5]
- Pain reduction: Mean 54% reduction in VAS pain scores (range 33% to 66%) during double-blind phases.
- Statistical significance: $p<0.0001$, $p=0.001$, $p<0.01$, $p<0.05$, $p=0.048$.
- Potency of bisphosphonates: 1/1000 to 1/20 potency of AXS-02.[6]

1. Adami S, et al. *Ann Rheum Dis.* 1997;56:201-204.
2. Varenna M, et al. *J Rheumatol. 2000*;27:1477-1483.
3. Robinson JN, et al. *Pain Med.* 2004;5:276-280.
4. Manicourt DH, et al. *Arthritis Rheum.* 2004;50:3690-3697.
5. Varenna M, et al. *Rheumatology (Oxford).* 2013;52:534-542.
6. Green JR, Rogers MJ. *Drug Dev Res.* 2002;55:210-224.

Chronic Pain: CRPS Phase 3 Design

create-1
CRPS Treatment Evaluation 1 Study

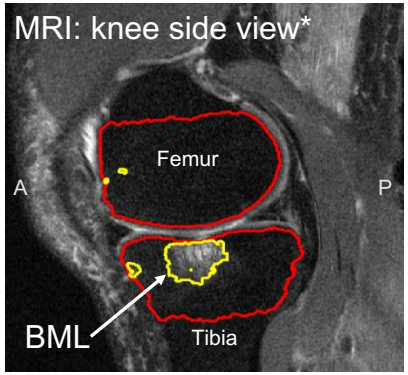
A Phase 3 trial to assess the efficacy and safety of AXS-02 in the treatment of pain associated with CRPS type 1.



- **Primary Endpoint:** Change in pain intensity from baseline to week 12, measured using the 0-10 Numerical Rating Scale (NRS).
- **Key Inclusion Criteria:**
  - Male or female ≥18 years old, recently diagnosed with CRPS type 1
  - Average NRS pain intensity score of ≥5
- **Dosage:** Once per week for six weeks; no drug for last six weeks.
- Interim efficacy analysis planned.

Chronic Pain:
Knee OA with BMLs Overview

- Bone marrow lesions (BMLs) on MRI are associated with pain in knee osteoarthritis (OA).[1]
- BMLs are regions of increased bone turnover, and reduced mineral density.[2,3]
- Zoledronic acid inhibits bone resorption and increases mineral density.
- Phase 2 results: Zoledronic acid reduced pain and BML size in patients with knee osteoarthritis.
- Phase 3 being conducted under Special Protocol Assessment (SPA).
- Issued U.S. patents: protection into 2034 – uses of zoledronic acid for knee pain.

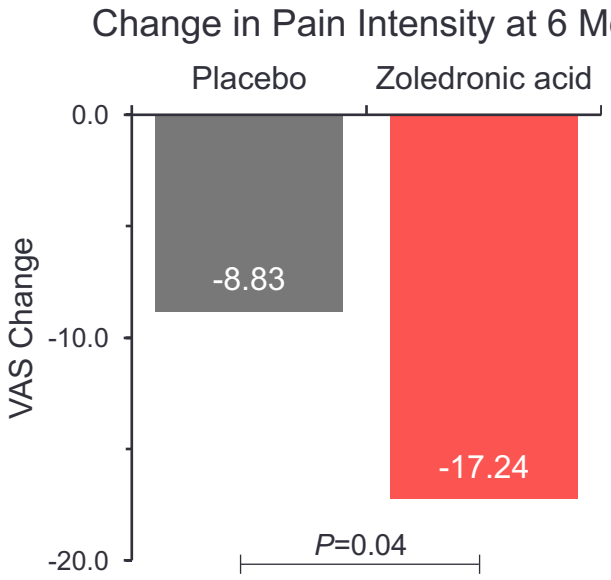


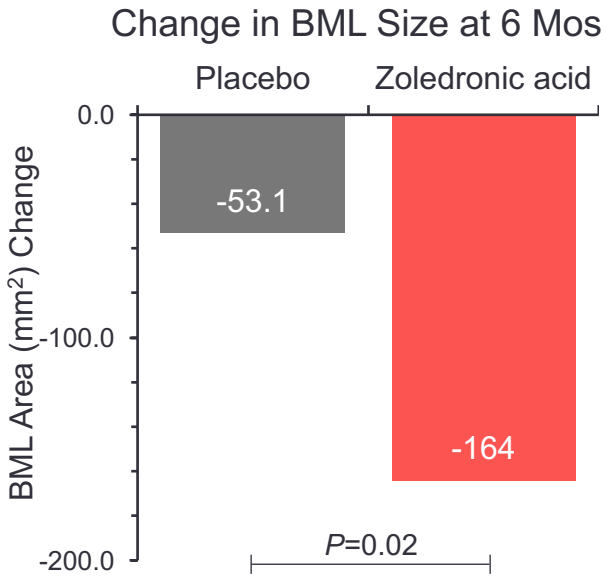
7M patients in the U.S.[4-9]

Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-02	Knee OA with BMLs: SPA Received; Fast Track Granted			Initiated

* MRI showing BML in medial tibia from Driban, et al. *Arthritis Res Ther.* 2013;15:R112.
1. Driban JB, et al. *Arthritis Res Ther.* 2013;15:R112.
2. Hunter DJ, et al. *Arthritis Res Ther.* 2009;11:R11.
3. Kazakia GJ, et al. *Osteoarthritis Cartilage.* 2013;21:94-101.
4. Lawrence RC, et al. *Arthritis Rheum.* 2008;58:26-35.
5. Zhang Y, Jordan. *JM Clin Geriatr Med.* 2010;26:355–69.
6. Tanamas SK, et al. *Rheumatology.* 2010;49:2413–19.
7. Guermazi A, et al. *BMJ.* 2012;345:e5339.
8. Jensen OK, et al. *Spine J.* Feb. 14, 2014;pii:S1529-9430(14)00214-9.
9. U.S. Census Bureau, Population April 1, 2010 to July 1, 2013.

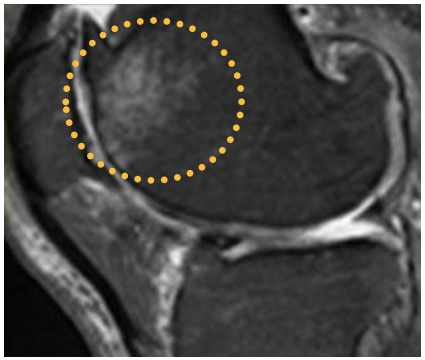
Chronic Pain:
Knee OA with BMLs Phase 2 Results



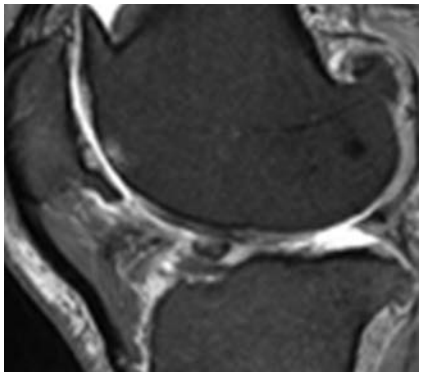


BML at Baseline and Post Zoledronic Acid Treatment

Baseline



6 Months Post Treatment



- Randomized, double-blind, placebo-controlled trial (N=59):
  - Placebo (n=28), zoledronic acid IV (n=31)
- Primary endpoints:
  - Pain intensity measured using 100-mm VAS
  - BML size on MRI

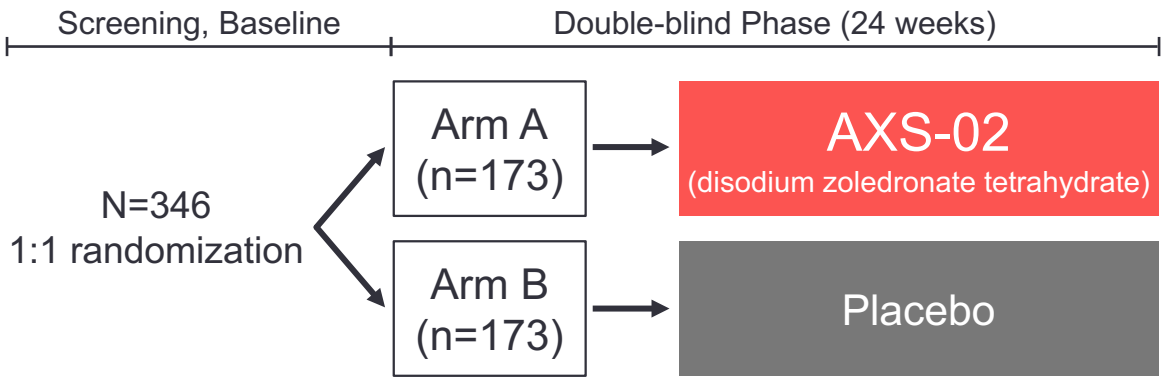
Laslett LL, et al. *Ann Rheum Dis.* 2012;71:1322-8.
MRI images courtesy of Prof. Graeme Jones.

AXSOME THERAPEUTICS

Chronic Pain:
Knee OA with BMLs Phase 3 Design

coast-1
Clinical Knee OA Symptom Treatment 1 Study

A Phase 3 trial to assess the efficacy and safety of AXS-02 in the treatment of pain of knee OA associated with BMLs.

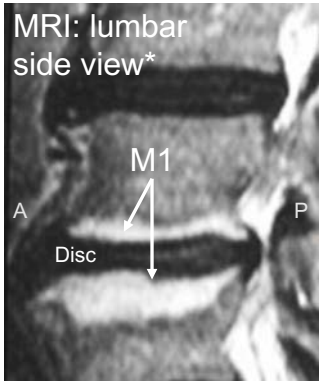


Special Protocol Assessment (SPA) received

- **Primary Endpoint:** Change in pain intensity from baseline to week 24, measured using the 0-10 Numerical Rating Scale (NRS).
- **Key Inclusion Criteria:**
  - Male at least 50 years of age or postmenopausal female, with knee OA and BMLs
  - Moderate or worse knee pain
- **Dosage:** Once per week for six weeks; no drug for remainder of double-blind phase.
- Interim analysis planned.

Chronic Pain:
CLBP with MCs Overview

- Modic changes (MCs) type 1 (M1) on MRI are associated with chronic low back pain (CLBP).[1]
- Increased bone turnover on bone scan is seen in M1 lesions.[2]
- Increased pro-inflammatory cytokines, and vascular density seen in M1 lesions.[3]
- Zoledronic acid reduces bone turnover, suppresses the production of inflammatory mediators, and is anti-angiogenic.
- Phase 2 results: Zoledronic acid reduced pain in patients with CLBP.
- FDA clearance received for IND for Phase 3 trial – initiation planned following readouts from CREATE-1 and STRIDE-1.
- Issued U.S. patents: protection into 2034 – uses of oral zoledronic acid for low back pain.



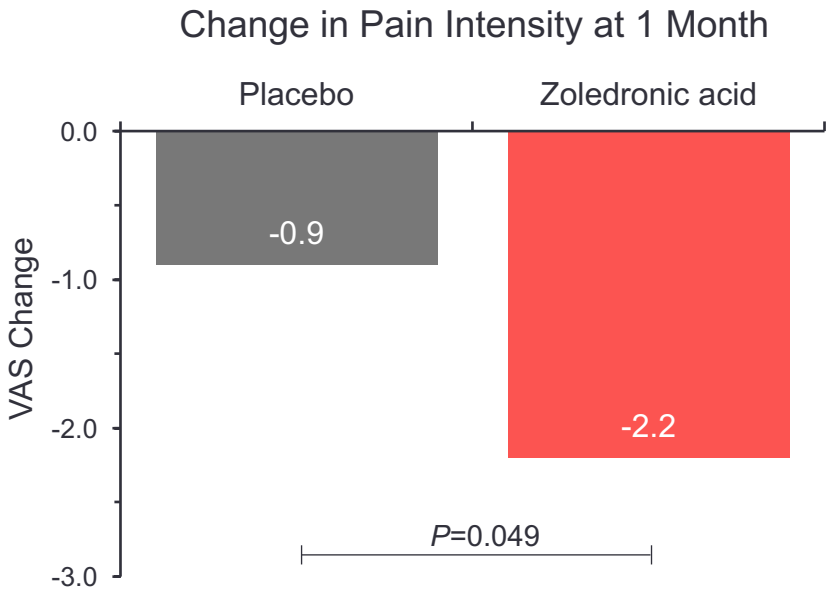
1.6M patients
in the U.S.[4-7]

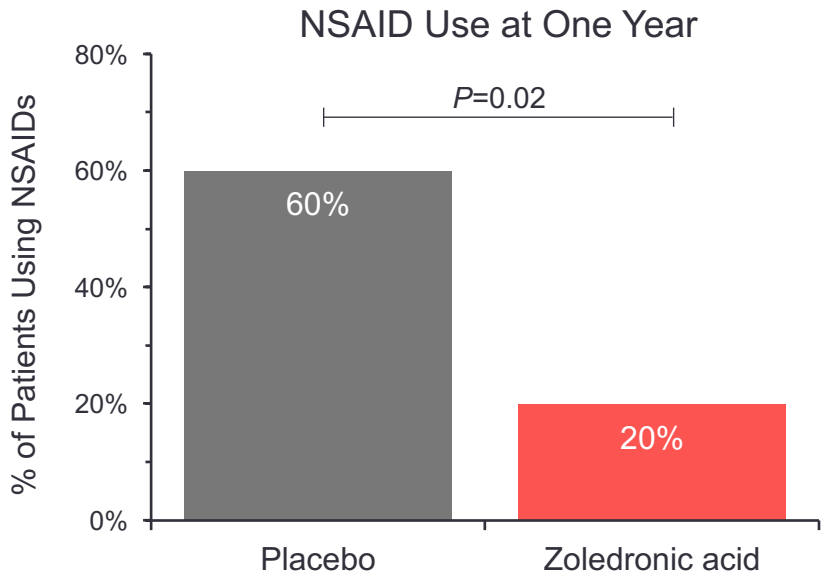
Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-02	CLBP with MCs			

* MRI showing modic type 1 lesions from Luoma K, et al. *European Congress of Radiology (ECR).* 2014;Poster B-0458.

1. Zhang Y, et al. *Eur Spine J.* 2008;17:1289-1299.
2. Järvinen J, et al. *Spine: ISSLS Society Meeting Abstracts.* Oct. 2011;Volume Suppl, Abstract GP127.
3. Rahme R, Moussa R. *Am J Neuroradiol.* 2008;29:838–42.
4. Lawrence RC, et al. *Arthritis Rheum.* 2008;58:26-35.
5. Zhang Y, Jordan. *JM Clin Geriatr Med.* 2010;26:355–69.
6. Jensen OK, et al. *Spine J.* Feb. 14, 2014;pii:S1529-9430(14)00214-9. 7. U.S. Census Bureau, Population April 1, 2010 to July 1, 2013.

Chronic Pain:
CLBP with MCs Phase 2 Results





- Randomized, double-blind, placebo-controlled trial (N=40):
  - Placebo (n=20), zoledronic acid IV (n=20)
- Primary endpoint: Pain intensity measured using 10-cm VAS.

Axsome data on file.

MoSEIC™ Meloxicam

Novel therapy for Acute and Chronic Pain

Acute and Chronic Pain: MoSEIC™ Meloxicam Overview

- MoSEIC™ meloxicam is a potent, oral, rapidly-absorbed, once-daily, non-opioid, COX-2 preferential, pain therapeutic.
- Standard meloxicam has an extended T_{max} (4-6 hours) which delays its onset of action.[1,2]
- Axsome's MoSEIC™ (Molecular Solubility Enhanced Inclusion Complex) technology substantially increases the rate of absorption of meloxicam while maintaining its approximately 20-hour half-life.
- Phase 1 results: 9 times faster T_{max}, higher C_{max} and similar half-life, compared to Mobic®.
- Potential utility for acute and chronic pain indications.
- AXS-06 is a fixed-dose combination of MoSEIC™ meloxicam and esomeprazole (to reduce risk of NSAID-associated ulcers).
- AXS-06 is Phase 3-ready based on received Pre-IND written guidance.

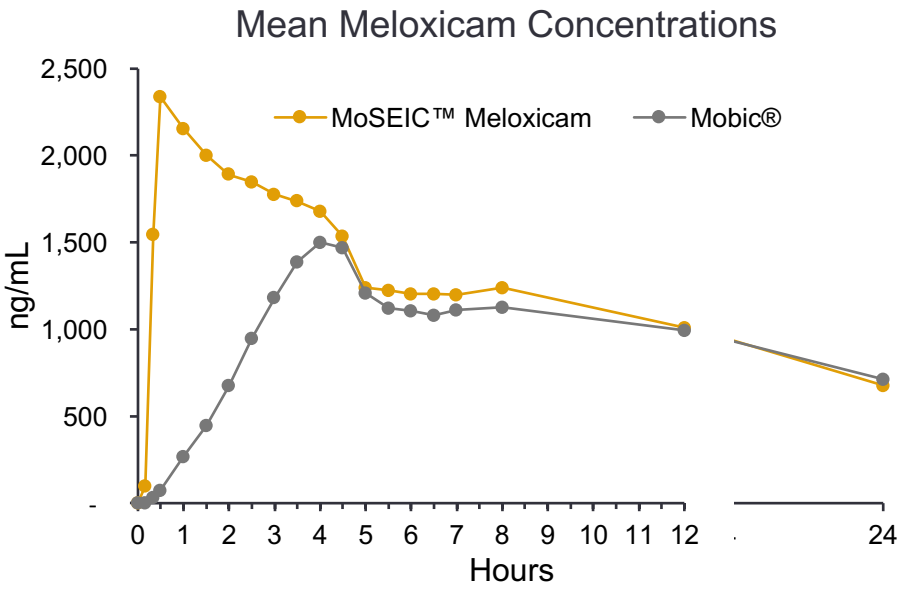
120M NSAID TRx per year in the U.S.[3,4]

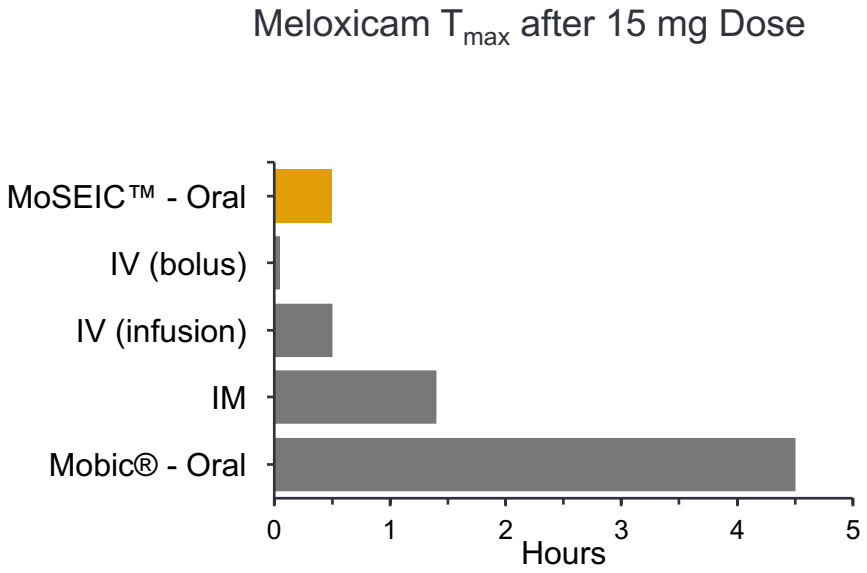
Product Candidate	Preclinical	Phase 1	Phase 2	Phase 3
AXS-06 (MoSEIC™ Mx + Eso)	OA and RA			Phase 3 ready

Abbreviations: Eso = Esomeprazole; Mx = Meloxicam; OA = Osteoarthritis; RA = Rheumatoid Arthritis.

1. Mobic® (meloxicam) FDA Package Insert.
2. Euller-Ziegler et al., *Inflamm Res 50*, Supplement 1 (2001) S5–S9.
3. Peura and Goldkind, *Arthritis Res Ther. 7*, Supplement 4 (2005) S7–S13.
4. U.S. Census Bureau, Population: 2000 and 2016.

Acute and Chronic Pain: MoSEIC™ Meloxicam Phase 1 Results



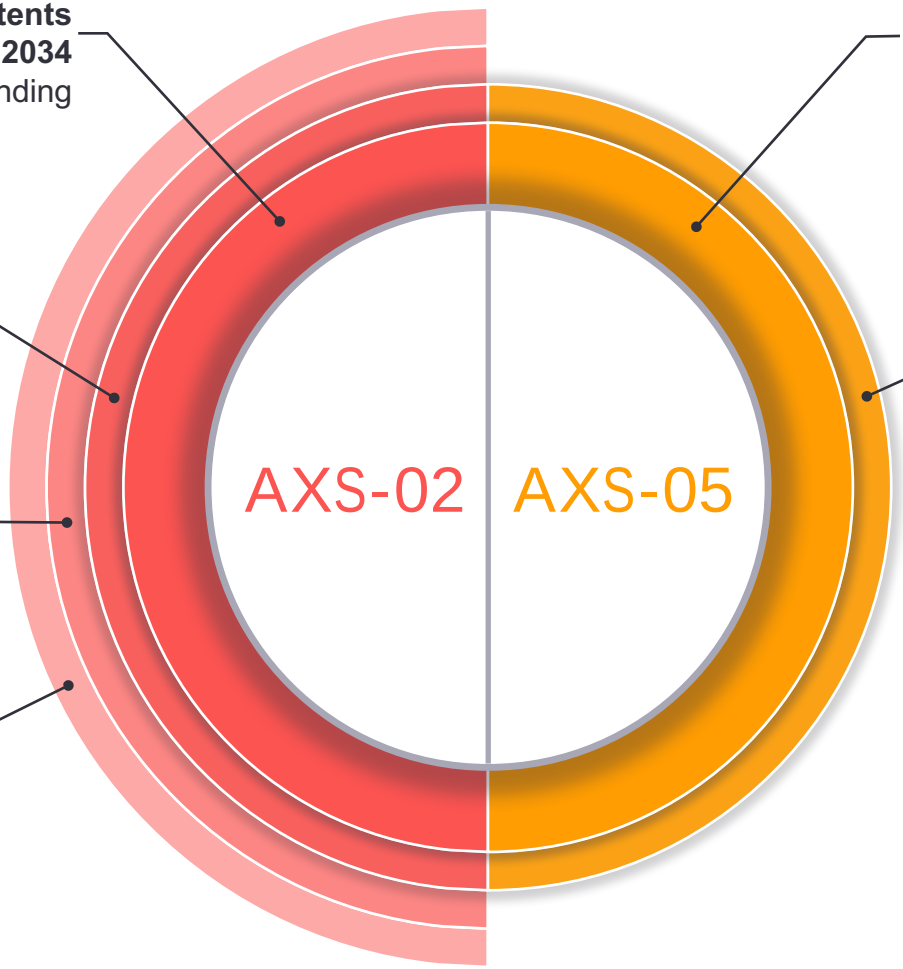


- MoSEIC™ meloxicam T_{max} 9 times faster than Mobic® (0.5 hour versus 4.5 hours, respectively, $p<0.0001$).
- Therapeutic plasma levels achieved within 15 minutes of oral dosing of MoSEIC™ meloxicam.
- MoSEIC™ meloxicam had higher mean C_{max} ($p=0.0018$), faster time to therapeutic plasma concentration ($p<0.0001$), and time to half-maximal plasma concentration ($p<0.0001$) as compared to Mobic®.
- Terminal half-lives were approximately 20 hours for MoSEIC™ meloxicam and 22 hours for Mobic®.

Sources: Axsome data on file. IV and IM data from Euller-Ziegler et al., *Inflamm Res 50*, Supplement 1 (2001) S5–S9.

AXSOME THERAPEUTICS

Barriers to Entry



*Claims cover AXS-02 and related substances and disease indications.

Our Team

Management

Herriot Tabuteau, MD
Founder & CEO

John Golubieski, MBA
CFO

Cedric O'Gorman, MD, MBA
SVP, Clinical Development & Medical Affairs

Mark Jacobson, MA
SVP, Operations

Robert Niecestro, PhD
VP, Clinical & Regulatory

Board of Directors

Roger Jeffs, PhD
Former President, Co-CEO, Director
United Therapeutics Corp.
Prior positions at Amgen and Burroughs Wellcome

Myrtle Potter
Former President, COO
Genentech
Prior positions at Bristol-Myers Squibb and Merck

Mark Saad
Former CFO
Bird Rock Bio, Inc.
Former COO of the Global Healthcare Group at UBS

Mark Coleman, MD
Medical Director
National Spine and Pain Centers
Diplomat of the American Board of Anesthesiology

Herriot Tabuteau, MD
Chairman

Key Financial Information

	As of September 30, 2017
Cash:	$31.7 Million
Debt (Face Value)[1]:	$10.0 Million
Common Shares Outstanding:	23.7 Million
Options and Warrants Outstanding[2]:	2.6 Million

- **Financial guidance**: Cash anticipated to fund operating requirements into the first quarter of 2019.

1. Book value of $10.1 million.
2. Consists of 2.4 million options and 0.2 million warrants.

Anticipated Near-Term Clinical Milestones

Product Candidate	Indication	1H 2017	2H 2017	1H 2018
AXS-05 (DM + BUP)	**TRD**	✔ **Fast Track** designation		● **STRIDE-1** top-line results (1H)
	AD Agitation	✔ **Ph 2/3 IND** FDA clearance ✔ **Fast Track** designation	✔ **Ph 2/3** trial start	
AXS-02 (DZT)	**CRPS**		● **CREATE-1** interim efficacy analysis readout (4Q)	
	Knee OA		● **COAST-1** interim analysis readout (4Q)	
	CLBP	✔ **Ph 3 IND** FDA clearance		
AXS-06 (MoSEIC™ Mx + Eso)	**OA and RA**		✔ **Ph 1** trial results	

Abbreviations: AD = Alzheimer's Disease; BUP = Bupropion; DZT = Disodium Zoledronate Tetrahydrate; CLBP = Chronic Low Back Pain; CRPS = Complex Regional Pain Syndrome; DM = Dextromethorphan; OA = Osteoarthritis; TRD = Treatment Resistant Depression; Mx = Meloxicam; Eso = Esomeprazole; RA = Rheumatoid Arthritis.
✔ Accomplished milestone.
● Upcoming milestone.

AXSOME
THERAPEUTICS

Thank you.

For more information, please contact

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