UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): November 12, 2024

Acumen Pharmaceuticals, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	001-40551	36-4108129
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

1210-1220 Washington Street, Suite 210 Newton, Massachusetts	02465
(Address of Principal Executive Offices)	(Zip Code)

(617) 344-4190
(Registrant's Telephone Number, Including Area Code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	**ABOS**	**The Nasdaq Global Select Market**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

On November 12, 2024, Acumen Pharmaceuticals, Inc. (the "**Company**") reported financial results and business highlights for the quarter ended September 30, 2024. A copy of this press release (the "**Earnings Press Release**") is furnished as Exhibit 99.1 to this Current Report on Form 8-K (this "**Report**") and is incorporated by reference.

The information in this Item 2.02 of this Report (including Exhibit 99.1) is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended (the "**Securities Act**"), or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 7.01 Regulation FD Disclosure.

On November 12, 2024, the Company posted an updated corporate presentation to its website at https://investors.acumenpharm.com/news-events/presentations, which the Company may use from time to time in communications or conferences. The corporate presentation was updated to reflect the inclusion of preclinical selectivity data, the Company's cash balance on September 30, 2024, and the projected timing for the completion of enrollment for ALTITUDE-AD. A copy of the corporate presentation is attached as Exhibit 99.2 to this Report.

The information in this Item 7.01 of this Report (including Exhibit 99.2), is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, except as expressly set forth by specific reference in such filing. The Company's submission of this Report shall not be deemed an admission as to the materiality of any information required to be disclosed solely to satisfy the requirements of Regulation FD.

Item 9.01 Financial Statements and Exhibits.

(d). Exhibits

Exhibit No.	Description
99.1	Earnings Press Release, dated November 12, 2024
99.2	Corporate Presentation, dated November 12, 2024
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the Company has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Acumen Pharmaceuticals, Inc.

Dated: November 12, 2024

By: /s/ Matthew Zuga
Matthew Zuga
Chief Financial Officer and Chief Business Officer

Exhibit 99.1

Acumen Pharmaceuticals Reports Third Quarter 2024 Financial Results and Business Highlights

- Expect ALTITUDE-AD, a Phase 2 study to investigate sabirnetug (ACU193) for the treatment of early Alzheimer's disease, to complete enrollment in the first half of 2025
- Expect to announce topline results of Phase 1 study to support subcutaneous administration of sabirnetug in the first quarter of 2025
- Cash, cash equivalents and marketable securities of $258.9 million as of Sept. 30, 2024, expected to support current clinical and operational activities into the first half of 2027
- Company to host conference call and webcast today at 8:00 a.m. ET

NEWTON, Mass., Nov. 12, 2024 – Acumen Pharmaceuticals, Inc. (NASDAQ: ABOS) ("Acumen" or the "Company"), a clinical-stage biopharmaceutical company developing a novel therapeutic that targets toxic soluble amyloid beta oligomers (AβOs) for the treatment of Alzheimer's disease (AD), today reported financial results for the third quarter of 2024 and provided a business update.

"Our team remains deeply committed to executing our plans in 2024, and I'm proud of the strides we've made in the third quarter. We expect enrollment completion of our Phase 2 ALTITUDE-AD study in the first half of 2025," said Daniel O'Connell, Chief Executive Officer of Acumen. "Additionally, we anticipate topline results from our Phase 1 healthy volunteer study investigating subcutaneous sabirnetug in the first quarter of 2025. With our clinical program gaining momentum and sabirnetug's unique selectivity for toxic amyloid beta oligomers, we are excited about the potential to offer a next-generation treatment for early Alzheimer's disease."

Recent Highlights

- **In September 2024, the Company announced it had extended its collaboration with Lonza to enable the potential future commercial launch of sabirnetug (ACU193).** The extended collaboration builds upon an existing successful relationship, in which Lonza provides drug substance manufacturing for the ALTITUDE-AD study. Under the terms of the extended agreement, Lonza will manufacture cGMP drug product of sabirnetug for the ongoing and future clinical phases and support the potential commercial launch of sabirnetug.
- **In October 2024, the Company hosted a virtual investor event to provide a deep dive into the scientific rationale, Phase 1 clinical results and Phase 2 clinical plans for sabirnetug.** A replay is available on the Investors section of Acumen's website.
- **In October 2024, the Company presented a late-breaking presentation featuring insights from its participant screening approach used in the ongoing Phase 2 ALTITUDE-AD clinical trial evaluating sabirnetug at the 17th Annual Clinical Trials on Alzheimer's Disease (CTAD) conference.**

- The presentation detailed the use of a validated research-use plasma phosphorylated tau 217 (pTau217) assay to screen potential participants in ALTITUDE-AD. The plasma pTau217 assay is being used as an initial screening tool to identify people who qualify for additional amyloid testing to determine eligibility for the ALTITUDE-AD trial. More details about the research are available here.

- **In November 2024, the Company announced the appointment of Amy Schacterle, PhD as Chief Regulatory Officer & Head of Quality.** Dr. Schacterle brings over 30 years of experience in regulatory affairs, quality assurance, and therapeutic development to Acumen, with a focus on central nervous system disorders.

Anticipated Milestones

- The Company expects ALTITUDE-AD, a Phase 2 study to investigate sabirnetug for the treatment of early Alzheimer's disease, to complete enrollment in the first half of 2025.

- The Company expects to announce topline results of a Phase 1 study to support subcutaneous administration of sabirnetug in the first quarter of 2025.

Third Quarter 2024 Financial Results

- **Cash Balance.** As of Sept. 30, 2024, cash, cash equivalents and marketable securities totaled $258.9 million, compared to cash, cash equivalents and marketable securities of $306.1 million as of December 31, 2023. The decrease in cash is related to funding ongoing operations. Cash is expected to support current clinical and operational activities into the first half of 2027.

- **Research and Development (R&D) Expenses.** R&D expenses were $27.2 million for the three-month period ended Sept. 30, 2024, compared to $11.2 million for the three-month period ended Sept. 30, 2023. The increase in R&D expenses was primarily due to increased clinical trial costs related to ALTITUDE-AD and license expenses.

- **General and Administrative (G&A) Expenses.** G&A expenses were $5.0 million for the three-month period ended Sept. 30, 2024, compared to $4.9 million for the three-month period ended Sept. 30, 2023. The increase in G&A expenses was primarily due to increased costs related to personnel.

- **Loss from Operations.** Loss from operations was $32.3 million for the three-month period ended Sept. 30, 2024, compared to $16.0 million for the three-month period ended Sept. 30, 2023. This increase was due to the increased R&D and G&A expenses over the prior year period.

- **Net Loss.** Net loss was $29.8 million for the three-month period ended Sept. 30, 2024, compared to $13.0 million for the three-month period ended Sept. 30, 2023.

Participation in Upcoming Investor Conferences

- UBS Global Healthcare Conference, November 11-14
- Stifel 2024 Healthcare Conference, November 18-19
- 7th Annual Evercore ISI HealthCONx Conference, December 3-5

Conference Call Details

Acumen will host a conference call and live audio webcast today, Nov. 12, 2024, at 8:00 a.m. ET.

To participate in the live conference call, please register using this link. After registration, you will be informed of the dial-in numbers including PIN. Please register at least one day in advance.

The webcast audio will be available via this link.

An archived version of the webcast will be available for at least 30 days in the Investors section of the Company's website at www.acumenpharm.com.

About Sabirnetug (ACU193)
Sabirnetug (ACU193) is a humanized monoclonal antibody (mAb) discovered and developed based on its selectivity for soluble amyloid beta oligomers (AβOs), which are a highly toxic and pathogenic form of Aβ, relative to Aβ monomers and amyloid plaques. Soluble AβOs have been observed to be potent neurotoxins that bind to neurons, inhibit synaptic function and induce neurodegeneration. By selectively targeting toxic soluble AβOs, sabirnetug aims to address the hypothesis that soluble AβOs are an early and persistent underlying cause of the neurodegenerative process in Alzheimer's disease (AD). Sabirnetug has been granted Fast Track designation for the treatment of early AD by the U.S. Food and Drug Administration and is currently being evaluated in a Phase 2 study in patients with early AD.

About ALTITUDE-AD (Phase 2)
Initiated in 2024, ALTITUDE-AD is a Phase 2, multi-center, randomized, double-blind, placebo-controlled clinical trial designed to evaluate the efficacy and safety of sabirnetug (ACU193) infusions administered once every four weeks in slowing cognitive and functional decline as compared to placebo in participants with early Alzheimer's disease. The study will enroll approximately 540 individuals with early Alzheimer's disease (mild cognitive impairment or mild dementia due to AD). The global study is currently enrolling at multiple investigative sites located in the United States and Canada with plans for additional sites in Europe and the UK. More information can be found on www.clinicaltrials.gov, NCT identifier NCT06335173.

About INTERCEPT-AD (Phase 1)
Completed in 2023, INTERCEPT-AD was a Phase 1, U.S.-based, multi-center, randomized, double-blind, placebo-controlled clinical trial evaluating the safety and tolerability, and establishing clinical proof of mechanism, of sabirnetug in patients with early Alzheimer's disease (AD). Sixty-five individuals with early AD (mild cognitive impairment or mild dementia due to AD) enrolled in this first-in-human study of sabirnetug. The INTERCEPT-AD study consisted of single-ascending-dose (SAD) and multiple-ascending-dose (MAD) cohorts. Results showed sabirnetug to be well-tolerated with a favorable overall safety profile. The trial showed amyloid plaque reduction, effects on synaptic biomarkers, low overall rates of ARIA-E, and evidence of target engagement that validated proof of mechanism. More information can be found on www.clinicaltrials.gov, NCT identifier NCT04931459.

About Acumen Pharmaceuticals, Inc.
Acumen Pharmaceuticals is a clinical-stage biopharmaceutical company developing a novel therapeutic that targets toxic soluble amyloid beta oligomers (AβOs) for the treatment of Alzheimer's disease (AD). Acumen's scientific founders pioneered research on AβOs, which a growing body of evidence indicates are early and persistent triggers of Alzheimer's disease pathology. Acumen is currently focused on advancing its investigational product candidate, sabirnetug (ACU193), a humanized monoclonal antibody that selectively targets toxic soluble AβOs, in its ongoing Phase 2 clinical trial ALTITUDE-AD (NCT06335173) in early symptomatic Alzheimer's disease patients, following positive results in its Phase 1 trial INTERCEPT-AD. The company is headquartered in Newton, Mass. For more information, visit www.acumenpharm.com.

Forward-Looking Statements
This press release contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Any statement describing Acumen's goals, expectations, financial or other projections,

intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Words such as “believes,” “expects,” “anticipates,” “could,” “should,” “would,” “seeks,” “aims,” “plans,” “potential,” “will,” “milestone” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements include statements concerning Acumen’s business, and Acumen’s ability to achieve its strategic and financial goals, including its projected use of cash, cash equivalents and marketable securities and the expected sufficiency of its cash resources into the first half of 2027, the therapeutic potential of Acumen’s product candidate, sabirnetug (ACU193), including against other antibodies, the anticipated completion date of enrollment of ALTITUDE-AD, and the anticipated timeline for results from the Phase 1 trial to support a subcutaneous dosing option of sabirnetug. These statements are based upon the current beliefs and expectations of Acumen management, and are subject to certain factors, risks and uncertainties, particularly those inherent in the process of discovering, developing and commercializing safe and effective human therapeutics. Such risks may be amplified by the impacts of geopolitical events and macroeconomic conditions, such as rising inflation and interest rates, supply disruptions and uncertainty of credit and financial markets. These and other risks concerning Acumen’s programs are described in additional detail in Acumen’s filings with the Securities and Exchange Commission (“SEC”), including in Acumen’s most recent Annual Report on Form 10-K, and in subsequent filings with the SEC. Copies of these and other documents are available from Acumen. Additional information will be made available in other filings that Acumen makes from time to time with the SEC. These forward-looking statements speak only as of the date hereof, and Acumen expressly disclaims any obligation to update or revise any forward-looking statement, except as otherwise required by law, whether, as a result of new information, future events or otherwise.

CONTACTS:

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Acumen Pharmaceuticals, Inc.
Condensed Balance Sheets
(in thousands, except share and per share data)

	September 30, 2024	December 31, 2023
	(unaudited)	
ASSETS		
Current assets		
Cash and cash equivalents	$ 33,184	$ 66,886
Marketable securities, short-term	167,159	176,636
Prepaid expenses and other current assets	7,289	3,093
Total current assets	207,632	246,615
Marketable securities, long-term	58,552	62,553
Right-of-use asset	296	381
Restricted cash	236	233
Property and equipment, net	89	122
Other assets	170	221
Total assets	$ 266,975	$ 310,125
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 2,342	$ 1,379
Accrued clinical trial expenses	12,517	4,387
Accrued expenses and other current liabilities	4,926	6,339
Finance lease liability, short-term	—	756
Operating lease liability, short-term	129	110
Total current liabilities	19,914	12,971
Operating lease liability, long-term	185	284
Debt, long-term	29,674	29,897
Total liabilities	49,773	43,152
Commitments and contingencies		
Stockholders' equity		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized and no shares issued and outstanding as of September 30, 2024 and December 31, 2023	—	—
Common stock, $0.0001 par value; 300,000,000 shares authorized as of September 30, 2024 and December 31, 2023; 60,079,778 and 57,910,461 shares issued and outstanding as of September 30, 2024 and December 31, 2023	6	6
Additional paid-in capital	504,651	489,453
Accumulated deficit	(287,973)	(222,798)
Accumulated other comprehensive income	518	312
Total stockholders' equity	217,202	266,973
Total liabilities and stockholders' equity	$ 266,975	$ 310,125

Acumen Pharmaceuticals, Inc.
Condensed Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2024	2023	2024	2023
Operating expenses				
Research and development	$ 27,247	$ 11,179	$ 59,229	$ 29,025
General and administrative	5,018	4,860	15,191	13,627
Total operating expenses	32,265	16,039	74,420	42,652
Loss from operations	(32,265)	(16,039)	(74,420)	(42,652)
Other income (expense)				
Interest income	3,504	3,124	11,325	6,840
Interest expense	(1,027)	—	(3,031)	—
Change in fair value of embedded derivatives	(10)	—	1,040	—
Other income (expense), net	33	(42)	(89)	(62)
Total other income	2,500	3,082	9,245	6,778
Net loss	(29,765)	(12,957)	(65,175)	(35,874)
Other comprehensive gain (loss)				
Unrealized gain on marketable securities	682	137	206	242
Comprehensive loss	$ (29,083)	$ (12,820)	$ (64,969)	$ (35,632)
Net loss per common share, basic and diluted	$ (0.50)	$ (0.24)	$ (1.09)	$ (0.79)
Weighted-average shares outstanding, basic and diluted	60,079,778	54,229,630	59,990,844	45,474,953

Acumen Pharmaceuticals, Inc.
Condensed Statements of Cash Flows
(in thousands)
(unaudited)

	Nine Months Ended September 30,	
	2024	**2023**
Cash flows from operating activities		
Net loss	$ (65,175)	$ (35,874)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	49	42
Stock-based compensation expense	7,292	4,511
Amortization of premiums and accretion of discounts on marketable securities, net	(4,599)	(1,344)
Change in fair value of embedded derivatives	(1,040)	—
Amortization of right-of-use asset	85	103
Realized gains on marketable securities	(97)	—
Non-cash interest expense	823	—
Other non-cash expense	230	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(4,196)	(436)
Other assets	51	(38)
Accounts payable	963	(278)
Accrued clinical trial expenses	8,130	(1,151)
Accrued expenses and other current liabilities	(1,413)	(182)
Finance lease liability	(23)	—
Operating lease liability	(80)	(103)
Net cash used in operating activities	(59,000)	(34,750)
Cash flows from investing activities		
Purchases of marketable securities	(155,631)	(178,857)
Proceeds from maturities and sales of marketable securities	174,011	55,997
Proceeds from sale of property and equipment	—	3
Purchases of property and equipment	(16)	(7)
Net cash provided by (used in) investing activities	18,364	(122,864)
Cash flows from financing activities		
Proceeds from issuance of common stock, net of issuance costs	7,938	122,294
Proceeds from exercise of stock options	—	325
Payment for financing lease	(739)	—
Payments for deferred offering costs	(230)	—
Repurchase of common shares to pay employee withholding taxes	(32)	—
Net cash provided by financing activities	6,937	122,619
Net change in cash and cash equivalents and restricted cash	(33,699)	(34,995)
Cash and cash equivalents and restricted cash at the beginning of the period	67,119	130,101
Cash and cash equivalents and restricted cash at the end of the period	$ 33,420	$ 95,106

Corporate Presentation

November 2024

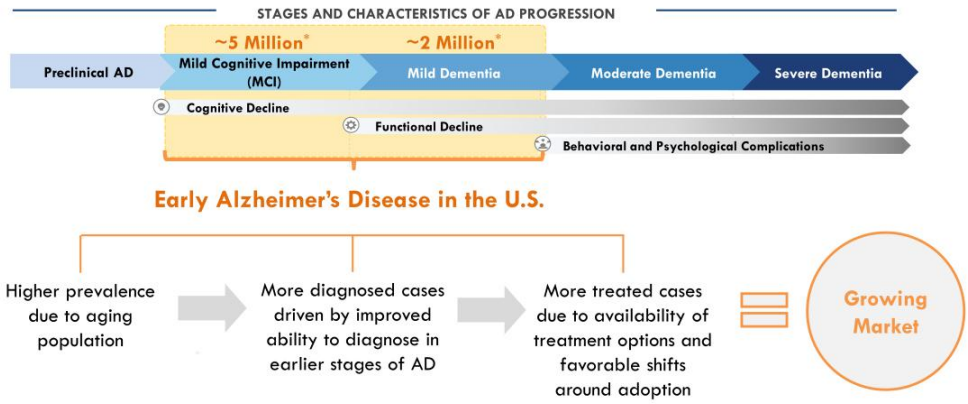
Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Any statement describing Acumen's goals, expectations, financial or other projections, intentions or beliefs is a forward-looking statement and should be considered an at-risk statement. Words such as "believes," "expects," "anticipates," "could," "would," "seeks," "aims," "plans," "potential," "will" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements include statements concerning Acumen's business, and Acumen's ability to achieve its strategic and financial goals, including its projected use of cash, cash equivalents and marketable securities and the expected sufficiency of its cash resources into the first half of 2027, the therapeutic potential of Acumen's product candidate, sabirnetug (ACU193), including against other antibodies, the anticipated timeline for announcing the top-line results from our Phase 1 trial of a subcutaneous dosing option of ACU193, and the anticipated timeline for the completion of enrollment of our Phase 2 ALTITUDE-AD trial. These statements are based upon the current beliefs and expectations of Acumen management, and are subject to certain factors, risks and uncertainties, particularly those inherent in the process of discovering, developing and commercializing safe and effective human therapeutics. Such risks may be amplified by the impacts of the COVID-19 pandemic. These and other risks concerning Acumen's programs are described in additional detail in Acumen's filings with the Securities and Exchange Commission ("SEC"), including in Acumen's most recent Annual Report Form 10-K and future filings and reports by Acumen. Copies of these and other documents are available from Acumen. Additional information will be made available in other filings that Acumen makes from time to time with the SEC. These forward-looking statements speak only as of the date hereof, and Acumen expressly disclaims any obligation to update or revise any forward-looking statement, except as otherwise required by law, whether, as a result of new information, future events or otherwise. In this presentation, references to cash also include cash equivalents.

Advancing a Next Generation Antibody Targeting Toxic Amyloid Beta Oligomers (AβOs) for Early Alzheimer's Disease (AD)

- Large market in need of additional treatment options
- Sabirnetug (ACU193): monoclonal antibody (mAb) highly selective for toxic AβOs
- Positive Phase 1 clinical trial results presented in 2H 2023
- Experienced leadership team with extensive AD drug development experience
- Strong balance sheet supporting clinical development plans for sabirnetug
- Phase 2 (IV) enrollment completion expected 1H25; Phase 1 (subcutaneous) TLR expected in 1Q25

Early AD Patient Population Represents Significant and Growing Market



*Alzheimer's Association

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AD, Amyloid & Abeta Oligomers

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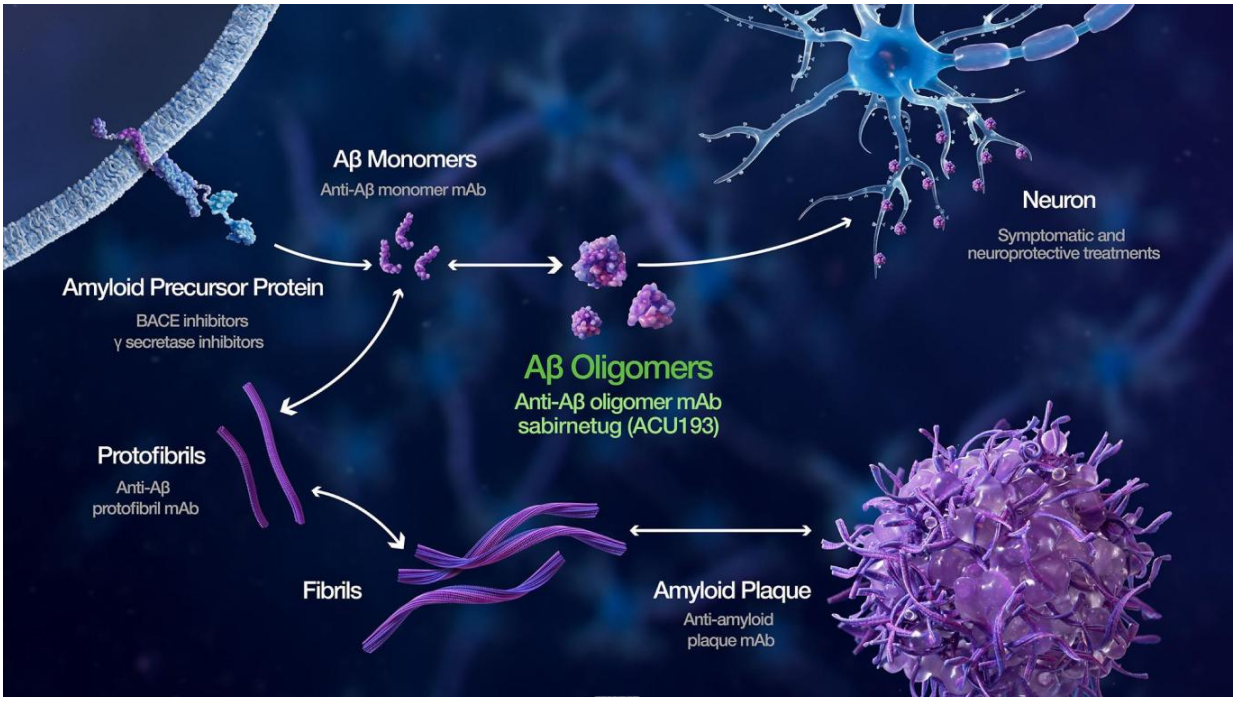
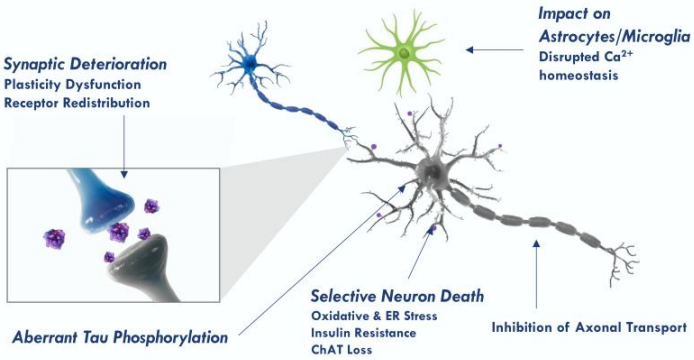

Aβ Monomers
Anti-Aβ monomer mAb
Neuron
Symptomatic and
neuroprotective treatments
Amyloid Precursor Protein
BACE inhibitors
γ secretase inhibitors
Aβ Oligomers
Anti-Aβ oligomer mAb
sabirnetug (ACU193)
Protofibrils
Anti-Aβ
protofibril mAb
Fibrils
Amyloid Plaque
Anti-amyloid
plaque mAb

Soluble AβOs Contribute to Pathophysiological Processes Associated with Alzheimer's Disease

- Soluble Aβ forms appear early in the course of disease pathophysiology
- Consequences of soluble Aβ oligomer production include synapse dysfunction and loss, tau hyperphosphorylation, immune cell activation and functional impairment
- Reduced neuronal toxicity and intervention at the synaptic level may prevent irreversible neuronal cell death
- Production of toxic soluble Aβ persists after plaque removal



Supported by extensive literature:

Synapse deterioration
Zhao et al, 2006
Lacor et al, 2007
Shankar et al, 2007
Wu et al, 2010
Brito-Moreira et al, 2017
Actor-Engel et al, 2021
Sackmann & Hallbeck, 2020
Limegrover et al, 2021

Plasticity dysfunction
Lambert et al, 1998
Walsh et al, 2002
Wang et al, 2002
Townsend et al, 2006
Yasumoto et al, 2019

Receptor Redistribution
Snyder et al, 2005
Roselli et al, 2005
Lacor et al, 2007
Zhao et al, 2008

Aberrant Tau phosphorylation
De Felice et al, 2008
Ma et al, 2009
Tomiyama et al, 2010
Zempel et al, 2010
Bloom, 2014
Forny-Germano et al, 2020
Wakeman et al, 2022
Darricau et al, 2023

Impact on astrocytes/microglia
Hu et al, 1998
Jimenez et al, 2008
Sondag et al, 2009
Tomiyama et al, 2010

Disrupted Ca^{2+} homeostasis
Demuro et al, 2005
De Felice et al, 2007
Alberdi et al, 2010
Wang et al, 2018

Selective neuron death
Lambert et al, 1998
Kim et al, 2003
Florent et al, 2006
Ryan et al, 2009
Lee et al, 2017
Komura, 2019

Insulin resistance
Zhao et al, 2008
Zhao et al, 2009
Ma et al, 2009
De Felice et al, 2009

ChAT loss
Heinitz et al, 2006
Nunes-Tavares et al, 2012

Oxidative stress
Longo et al, 2000
Sponne et al, 2003
Tabner et al, 2005
De Felice et al, 2007

ER stress
Resende et al, 2008
Nishitsuji et al, 2009

Inhibition of axonal transport
Pigino et al, 2009
Poon et al, 2009
Decker et al, 2010

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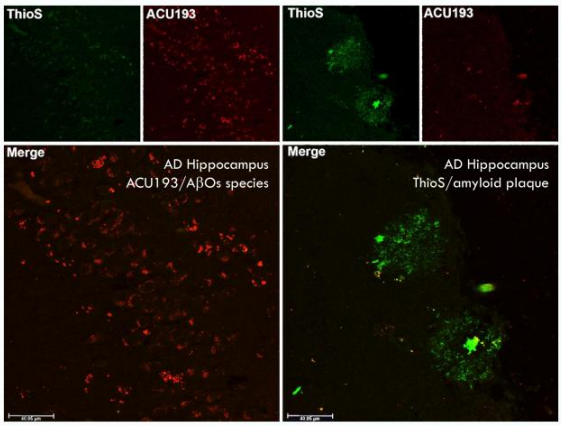
Sabirnetug is Highly Selective for AβOs Versus Aβ Plaques

Sabirnetug staining in human AD brain slices



Adapted from Krafft et al. 2022

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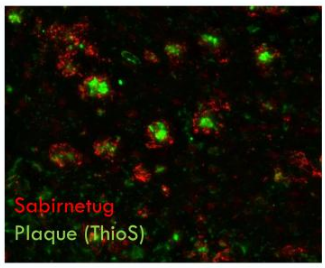
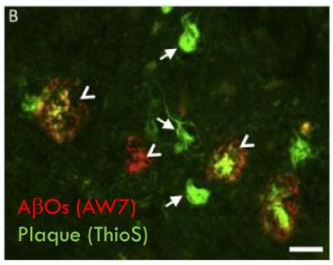
Amyloid Plaques are Surrounded by a Halo of AβOs

Transgenic mouse model of AD



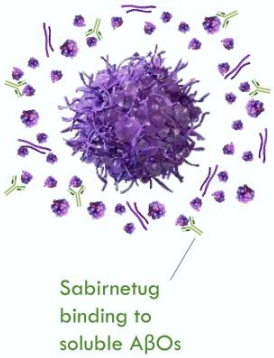
Lab of William Klein, NU, 2017

AD brain tissue



Spires-Jones et al. 2016

Sabirnetug targets AβOs that form halos of soluble aggregates around dense core of plaques



Sabirnetug binding to soluble AβOs

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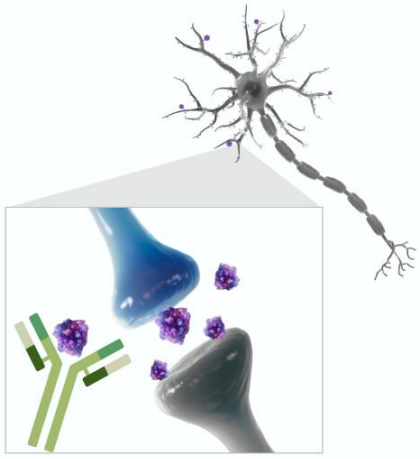
Sabirnetug: Potential Next Generation Immunotherapy for Early AD

Large Pharma Collaboration	· **Discovered in collaboration with Merck & Co.** Acumen holds exclusive program rights with no future financial or other obligations due to Merck
Designed for Improved Efficacy & Safety	· **Humanized, affinity matured mAb developed to target toxic Aβ oligomers** · **IgG2 subclass mAb with reduced effector function**
Encouraging FDA Interactions	· **FDA Fast Track designation for the treatment of early Alzheimer's disease** · **FDA End of Phase 2 meeting in 4Q 2023**
Positive Phase 1 in AD	· **Successful Phase 1 exclusively in early AD patients** · **Phase 2 initiated in 2Q24 with ~540 participants** · **Expect to complete Phase 2 enrollment in 1H25**



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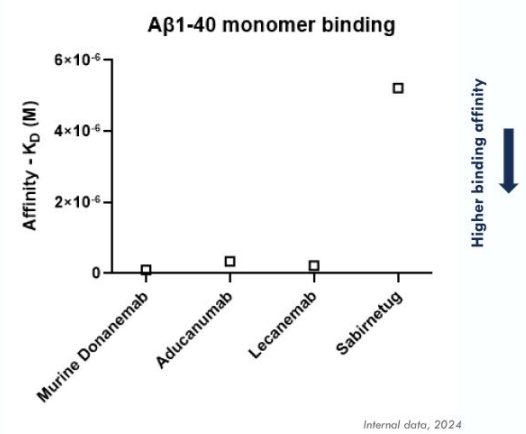
Sabirnetug was Developed to Selectively Target AβOs

High selectivity for AβOs versus monomeric Aβ



Internal data, 2024

- Aβ monomers are ~7000x fold higher concentration than AβOs in AD CSF
- Higher affinity for monomeric Aβ will reduce functional selectivity due to high monomer levels
- Sabirnetug has much lower affinity than other mAbs for Aβ monomers

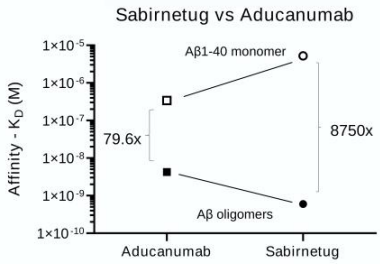
Sabirnetug is Highly Selective for Aβ Oligomers

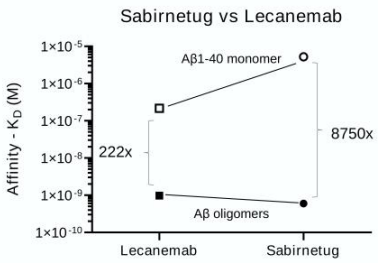
Relative selectivity for AβO versus monomeric Aβ measured with SPR

Sabirnetug is more selective for AβOs than aducanumab

Sabirnetug is more selective for AβOs than lecanemab

Higher binding affinity





Internal data, 2024

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Sabirnetug: Value Proposition

The Alzheimer's disease market is at a **key inflection point** with **recent and expected approvals** paving a new path for the treatment of AD …

… and **sabirnetug** is well-positioned to emerge as a potential next generation **treatment of choice.**

Market will likely remain consolidated with Aβ therapies emerging as the primary treatment option over the next few years

Stakeholders are encouraged about the advancements in the AD treatment landscape and are working together to enable broader patient access

With potential clinical and safety benefits conferred by AβO selectivity, sabirnetug has the opportunity to be a treatment of choice in the broader early AD population

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Positive INTERCEPT-AD Phase 1 Results for Sabirnetug

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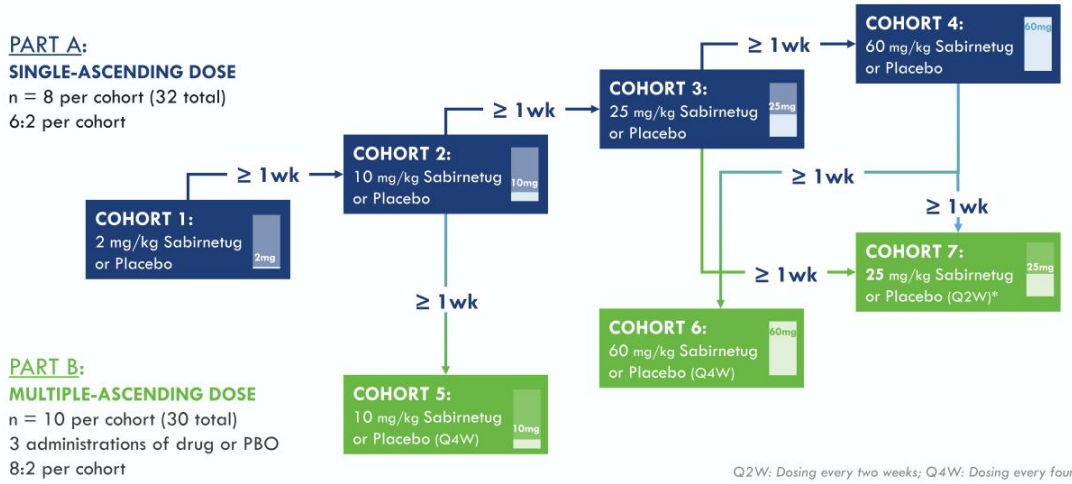
INTERCEPT-AD: A Randomized Placebo Controlled Phase 1 in Early AD Patients



Q2W: Dosing every two weeks; Q4W: Dosing every four weeks.

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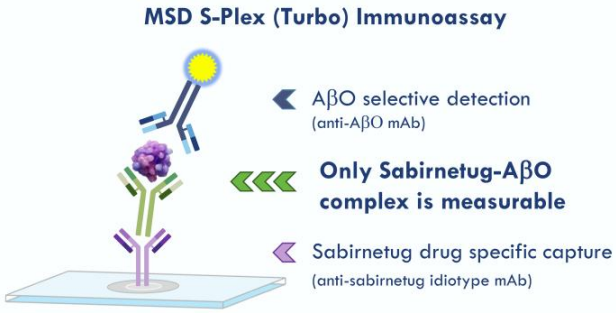
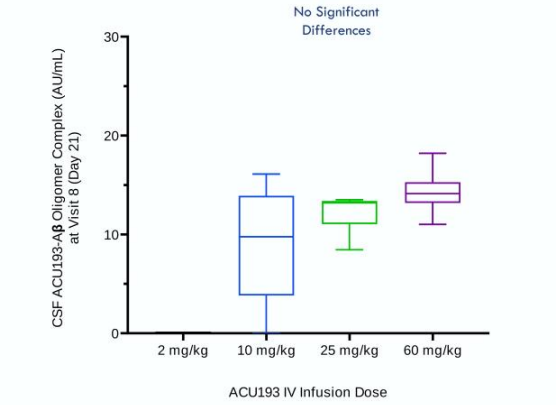
Target Engagement Assessed by Measuring Sabirnetug-AβO Complex in CSF

- Novel assay configuration tailored to selectively detect sabirnetug-AβO complex in CSF as direct measure of target engagement
- Translated for clinical use from a preclinical assay developed by Merck that showed sabirnetug engages target AβOs in transgenic mouse brain (tg2576) in dose dependent manner

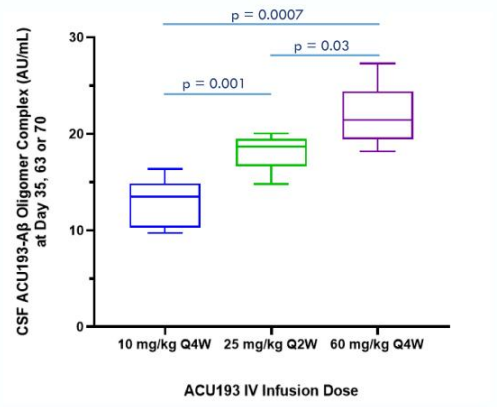


Target Engagement of Sabirnetug with AβOs is Dose Proportional

Single Dose Cohorts



Multiple Dose Cohorts*



*One patient from Cohort 5 (10 mg/kg Q4W) excluded because only received one administration of drug (study drug discontinued after lacunar infarct).

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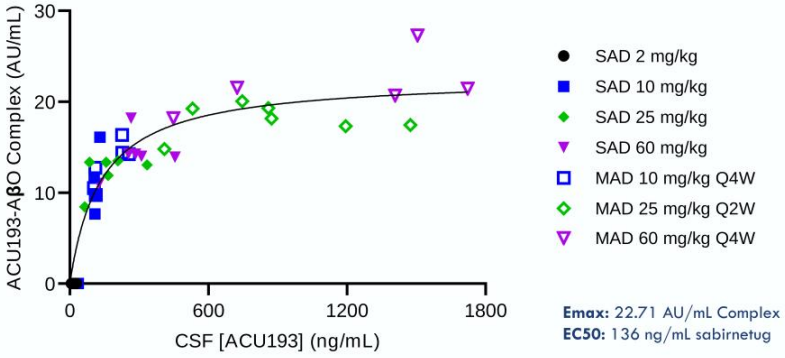
Doses Approaching Maximal Target Engagement Support Sabirnetug AβO Mechanism and Helped Guide Dose Selection for Next Study Phase

Target Engagement

Sabirnetug-AβO Complex

Single & Multiple Dose Cohorts - Exposure Response Relationship (Emax Model)



Emax: 22.71 AU/mL Complex
EC50: 136 ng/mL sabirnetug

*One patient from Cohort 5 (10 mg/kg Q4W) excluded because only received one administration of drug (study drug discontinued after lacunar infarct).

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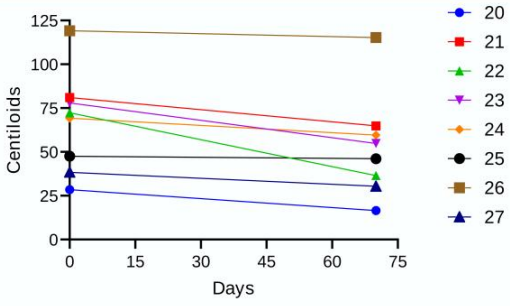
Nearly All Sabirnetug-Treated Patients in High Dose MAD Cohorts Showed Reductions in Plaque Load After Three Doses at 63 or 70 days

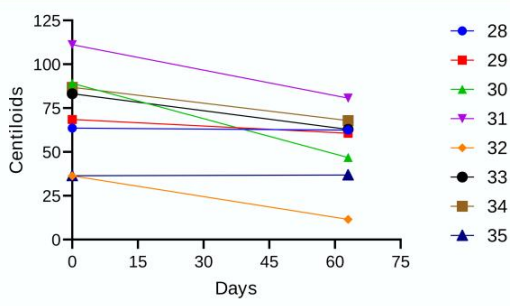
25 mg/kg Q2W MAD



Mean reduction in amyloid plaque

Δ (absolute value, centiloids)	13.7
Δ (%, centiloids)	20.6%

60 mg/kg Q4W MAD



Mean reduction in amyloid plaque

Δ (absolute value, centiloids)	18.1
Δ (%, centiloids)	25.6%

Plaque load based on florbetapir PET

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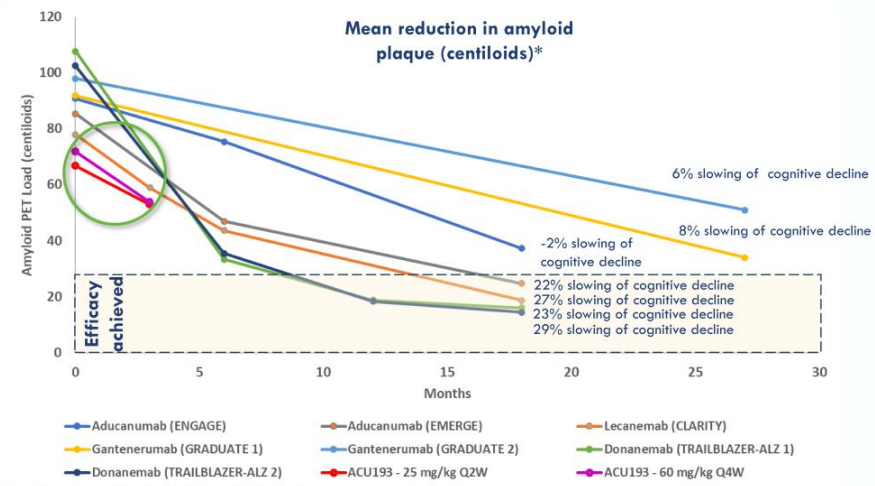
Highest Doses of INTERCEPT-AD Reduced Amyloid Plaque at Similar Rate and Magnitude to Lecanemab at Comparable Timepoints



Acumen Pharmaceuticals, data on file; van Dyck (2023), NEJM (amyloid PET reduction estimated from graphs).

*There have been no head-to-head clinical trials between the product candidates listed above. Study designs and protocols for each product candidate were different, and as a result, results may not be comparable between product candidates.

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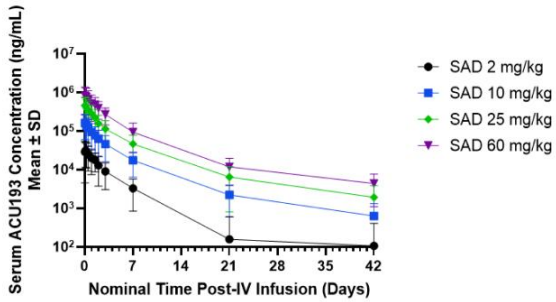
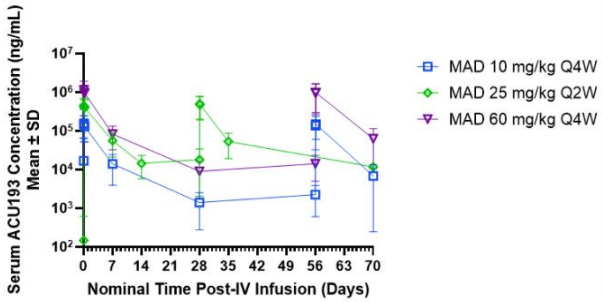
PHARMACOKINETICS

Sabirnetug Serum Exposure is Dose Proportional Without Accumulation

Single Dose Cohorts



Multiple Dose Cohorts



Estimated serum terminal $T_{1/2}$ of 5-7 days

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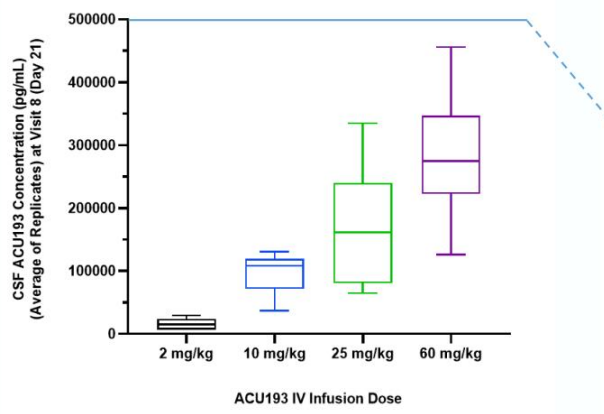
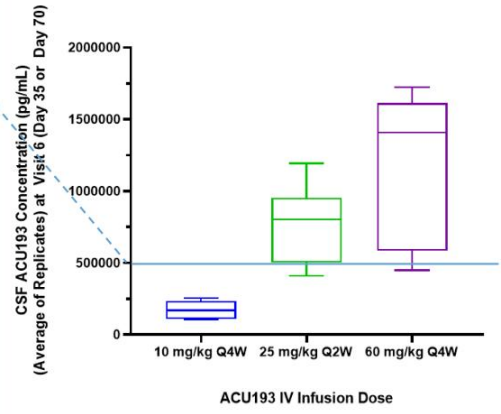
PHARMACOKINETICS

Sabirnetug CSF Exposure is Dose and Dose-Regimen Proportional

Single Dose Cohorts



Multiple Dose Cohorts*



*One patient from Cohort 5 (10 mg/kg Q4W) excluded because only received one administration of drug (study drug discontinued after lacunar infarct).

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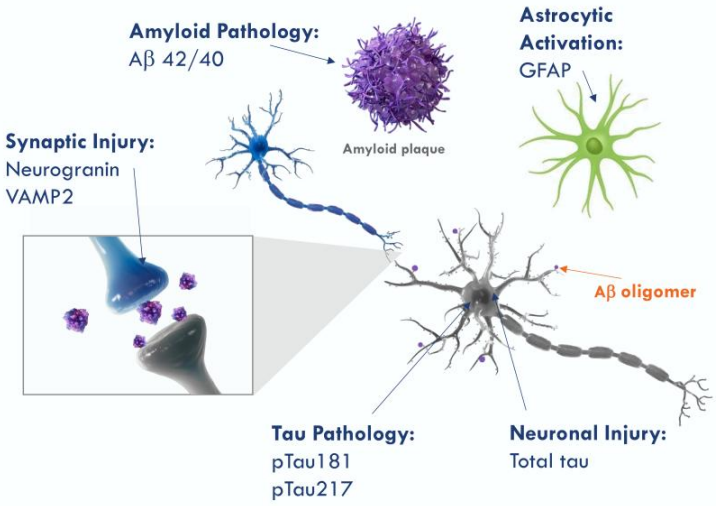
Importance of Key Fluid Biomarkers Associated with AD Pathology

- Biomarkers from cerebrospinal fluid and plasma capture neuronal, synaptic, and axonal injury and reflect the cumulative outcome of different pathological substrates in AD[1]
- Evidence suggests that biomarkers are likely to be better predictors of the underlying pathology of AD than imaging alone[2]
- **After just three administrations of sabirnetug, patients with early AD demonstrated improvements in biomarkers associated with AD pathology**



1. Tarawneh, R. Biomarkers: Our Path Towards a Cure for Alzheimer Disease. Biomarker Insights Volume 15: 1–15. 2020; 2. Blennow K, Zetterberg H. The Past and the Future of Alzheimer's Disease Fluid Biomarkers. J Alzheimers Dis. 2018;62(3):1125-1140.

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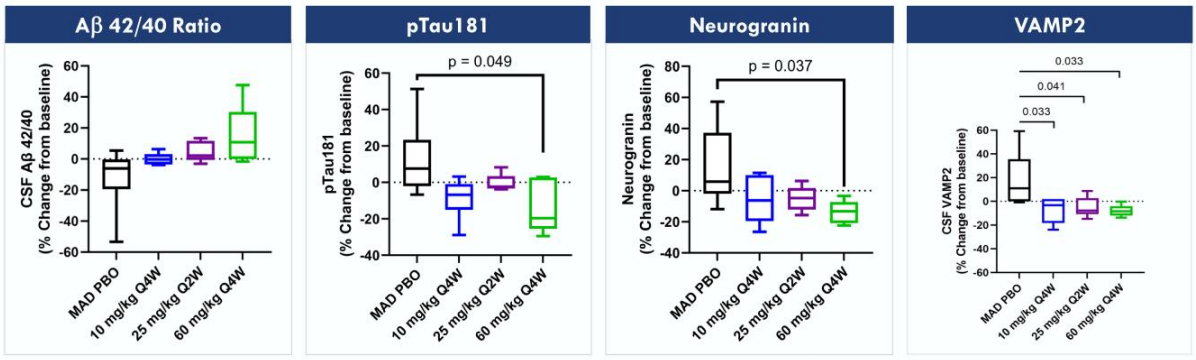
Consistent Improvement in CSF Amyloid, Tau and Synaptic Biomarkers Indicate Downstream Pharmacology of Sabirnetug After Only Three Doses



Amyloid pathology *Tau pathology* *Synaptic injury*

n = 8 subjects/treated group; 6 subjects in pooled placebo (PBO); p-values from unpaired, 2-sided Student's t test

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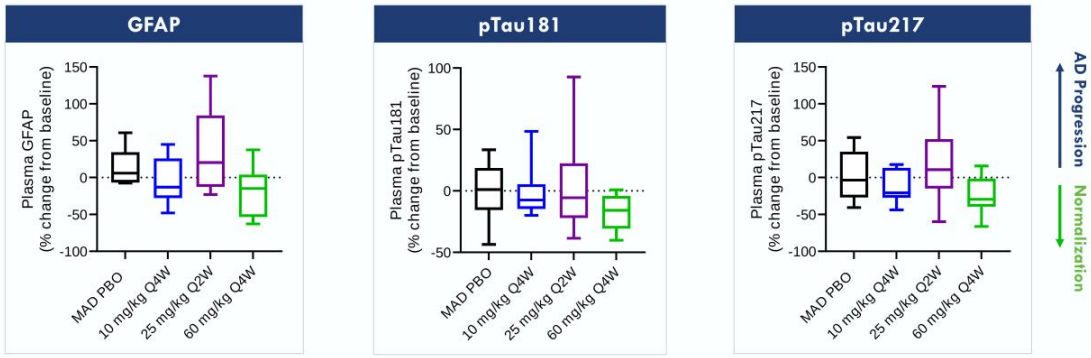
Trend Toward Normalizing Plasma Biomarkers with 10 mg/kg and 60 mg/kg Q4W

1-6 wk post-dosing



- Plasma measurements of glial fibrillary acidic protein (GFAP), pTau181, and pTau217 in 10 mg/kg Q4W & 60 mg/kg Q4W groups were lower than placebo
- More impact to fluid biomarkers was observed with longer dosing duration
  - The 25 mg/kg Q2W cohort differed in dose and sample timing, with drug on board for less time than the 10 mg/kg & 60 mg/kg Q4W cohorts

n = 8 subjects/treated group; 6 subjects in pooled placebo (PBO); p-values from unpaired, 2-sided Student's t test

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Sabirnetug Demonstrates Potential for Best-in-Class Safety

Compelling Overall Safety Profile, with Low Incidence of ARIA-E

INTERCEPT-AD Phase 1 Safety Data

5 Total ARIA-E cases, or ~10%

0 Cases of ARIA-E in ApoE4 homozygotes N=6

0 Deaths, SAEs Related to Study Drug

✓ **Limited incidence of ARIA-E**
- 10 mg/kg Q4W: 1 asymptomatic case
- 25 mg/kg Q2W: 1 asymptomatic case
- 60 mg/kg Q4W: 2 asymptomatic cases; 1 symptomatic case

✓ **No ARIA-E observed in ApoE4 homozygotes (n=6), despite comprising 13% of study**
- Differentiated from other antibodies that have ARIA-E rates ~30% to ~40% in participants who are E4-homozygotes

✓ **Broad therapeutic index** with convenient monthly dosing
- Safety profile may support attractive benefit/risk option for large portion of patients

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INTERCEPT-AD Phase 1 Data Support Potential for Sabirnetug to Offer Best-in-Class Efficacy and Safety

Key Takeaways from INTERCEPT-AD

Potential for Differentiated Efficacy	✓ First mAb to demonstrate selective target engagement of AβOs (most toxic form of Aβ) ✓ Rapid, significant plaque reduction comparable to the current market front-runners at similar timepoints ✓ Improvement of AD biomarkers in CSF and plasma are a strong indication of downstream effects
Potential for Differentiated Safety	✓ Compelling safety profile with low incidence of ARIA-E ✓ Absence of ARIA-E observed in ApoE4 homozygotes ✓ Broad therapeutic index with convenient monthly dosing

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Clinical Development Plans & Strategic Considerations

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ALTITUDE-AD Study

Currently Enrolling

Objective: To evaluate the clinical efficacy, safety and tolerability of sabirnetug

Patient population: ~540 participants with early AD (MCI or mild dementia due to early AD)

1. iADRS: Integrated Alzheimer's Disease Rating Scale; CDR-SB: Clinical Dementia Rating – Sum of Boxes; ADAS-cog: Alzheimer's Disease Assessment Scale – Cognitive Subscale; ADCS-ADL: Alzheimer's Disease Cooperative Study – Activities of Daily Living

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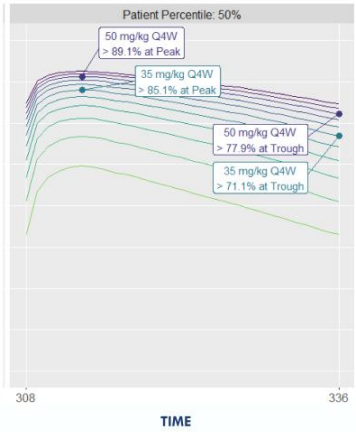
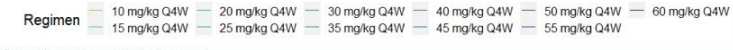
Simulated CSF Target Engagement at Steady-State for ALTITUDE-AD Doses

CSF target engagement was simulated at a candidate list of doses given Q4W at steady-state





Ph2 Dosing Strategy (ALTITUDE-AD)

lower dose: 35 mg/kg Q4W

upper dose: 50 mg/kg Q4W

- Notable **diminishing differentiation** as dose increases
- Doses were selected with **peak-trough** variation in mind: select doses based on trough (end of dosing interval) CSF engagement

Sabirnetug Subcutaneous Formulation Under Development in Collaboration with Halozyme

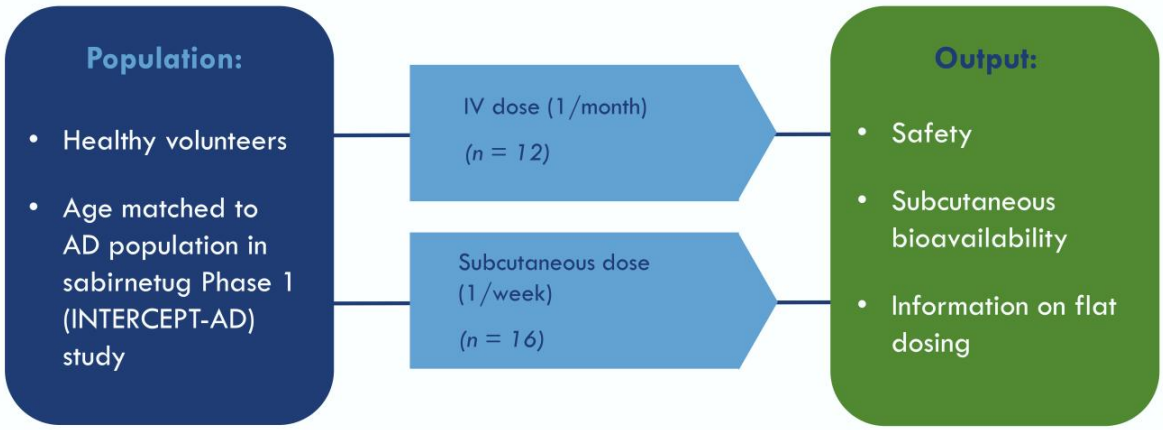
Potential to Broaden Patient Access and Increase Treatment Convenience

- Announced partnership with Halozyme in November 2023 to develop subcutaneous dosing option for sabirnetug
- Halozyme's drug delivery technology, ENHANZE®, is commercially validated in eight approved therapies available in 100+ countries, with >800,000 patients treated
- Current sabirnetug potential target product profile inclusive of no more than single weekly injection

Phase 1 bioavailability study ongoing to compare the pharmacokinetics of subcutaneous form of sabirnetug to the IV form

Ongoing Phase 1 Subcutaneous Healthy Volunteer Study

Topline Results Expected in Q1 2025



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Acumen Leadership Team

Experienced in AD/Neuro Drug Development

DANIEL O'CONNELL
Chief Executive Officer
ACUMEN
neuroventures

JAMES DOHERTY, PHD
President &
Chief Development Officer
ACUMEN
Sage Therapeutics · AstraZeneca

ERIC SIEMERS, MD
Chief Medical Officer
ACUMEN
Lilly

MATT ZUGA
Chief Financial Officer &
Chief Business Officer
ACUMEN · HIGHCAPE PARTNERS

RUSSELL BARTON
Chief Operating Officer
ACUMEN
Lilly

JANICE HITCHCOCK, PHD
VP, Regulatory Affairs
ACUMEN
Lilly

LIEAN SCHENK
VP, Head of CMC
ACUMEN
Lilly · Lonza · NOVAVAX

SIEW TIN GAN
Head of Clinical
Operations
ACUMEN
Takeda

PAUL SHUGHRUE, PHD
VP, Research & Strategy
ACUMEN
MERCK · Allergan

JASNA JERECIC, PHD
Analytical Methods
Leader, Research Scientist
ACUMEN

DEREK MEISNER, JD
Chief Legal Officer
ACUMEN
X4

JULIE BOCKENSTETTE
Executive Vice President,
Head of HR
ACUMEN
Roche · Lilly

Acumen team has decades of experience in Alzheimer's drug discovery and development

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Sabirnetug IP & Market Exclusivity

- Exclusive, perpetual, irrevocable, worldwide, royalty-free license from Merck to its Amyloid Derived Diffusible Ligand (ADDL) IP including issued sabirnetug patents
- Sabirnetug Global IP estate:
  - ✓ Issued patents in 19 countries
  - ✓ Composition of matter patents and methods of use run into July 2031
  - ✓ Patent term extensions may be available, 3-5 years depending on jurisdiction
- Biologics market exclusivity is expected for sabirnetug as a novel biologic drug
  - ✓ US provides 12 years market exclusivity for novel biologics
  - ✓ Europe provides 10 years of market exclusivity for novel biologics

Milestones Achieved in 2024 and Anticipated in 2025

MILESTONES	STATUS/ EXPECTED TIMING
Initiation of ALTITUDE-AD Phase 2 trial	✓
Initiation of Phase 1 subcutaneous trial	✓
Expected Phase 1 subcutaneous topline results	1Q25
Expected completion of enrollment of ALTITUDE-AD	1H25

~$259M

Cash, cash equivalents and marketable securities as of Sept. 30, 2024

We believe that Acumen has the expertise and resources to advance sabirnetug into the first half of 2027

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Summary

Key Takeaways

- ✓ Significant and growing Alzheimer's population in need of additional treatment options
- ✓ Sabirnetug demonstrates high selectivity for toxic AβOs in AD patients
- ✓ Positive Phase 1 data strengthen potential for sabirnetug to offer best-in-class efficacy and safety
- ✓ Phase 2 IV study and Phase 1 subcutaneous study ongoing

Next Steps

- → Anticipate Phase 1 subcutaneous healthy volunteer topline results in Q1 2025
- → Anticipate completion of enrollment in Phase 2 ALTITUDE-AD study in H1 2025

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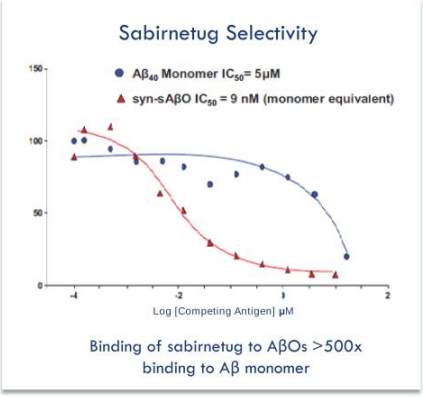
Appendix

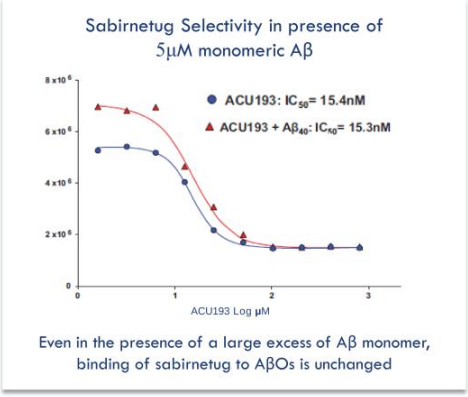
www.acumenpharm.com

Sabirnetug is the First mAb Developed to Selectively Target AβOs

Highly selective for Aβ oligomers versus Aβ monomers



Binding of sabirnetug to AβOs >500x binding to Aβ monomer



Even in the presence of a large excess of Aβ monomer, binding of sabirnetug to AβOs is unchanged

Sabirnetug selective for binding to AβOs is preserved even in the presence of a large excess of Aβ monomers – such as what is present in the brain, thus limiting 'target distraction'

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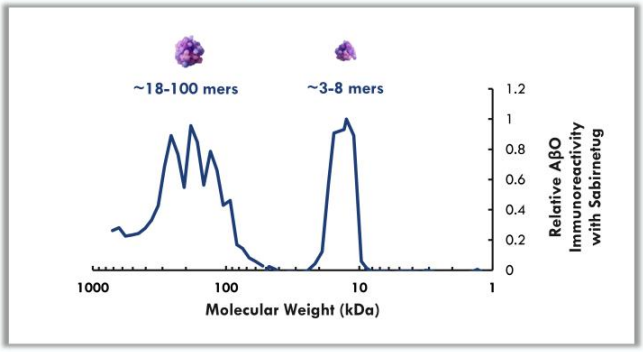
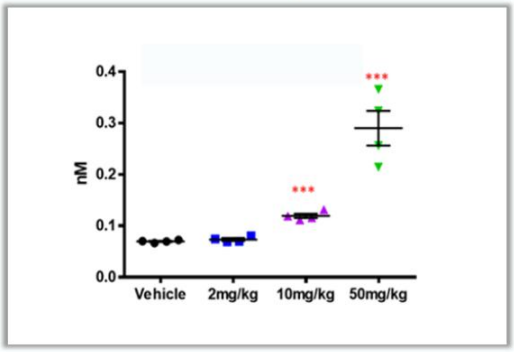
Sabirnetug Recognizes a Wide Range of Oligomeric Species of Aβ

Broad AβO size distribution recognized by sabirnetug in human AD brain



Data from lab of William Klein, NU, 2018

Sabirnetug dose dependently binds to AβOs in brain tissue from Tg2576 mice



Merck internal data, 2011

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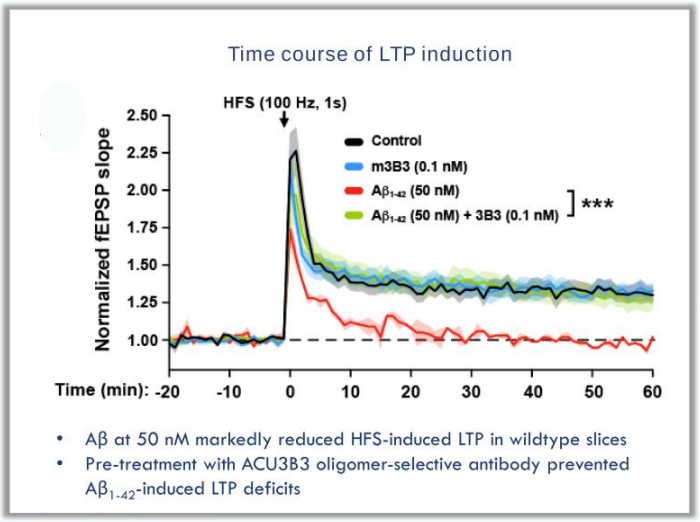
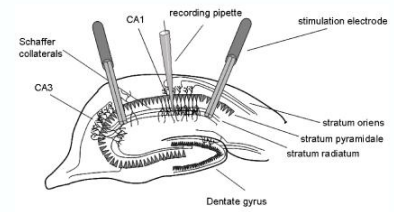
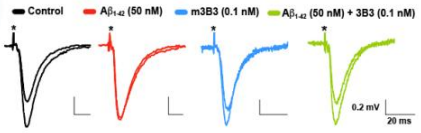
Functional Consequences of AβO Clearance: Restoring Plasticity

1. Prevention of hippocampal LTP impairment



- Aβ at 50 nM markedly reduced HFS-induced LTP in wildtype slices
- Pre-treatment with ACU3B3 oligomer-selective antibody prevented $A\beta_{1-42}$-induced LTP deficits





From manuscript in prep; data collected by lab of Gerhard Rammes, University of Regensburg, Max-Planck Institute of Psychiatry, Germany

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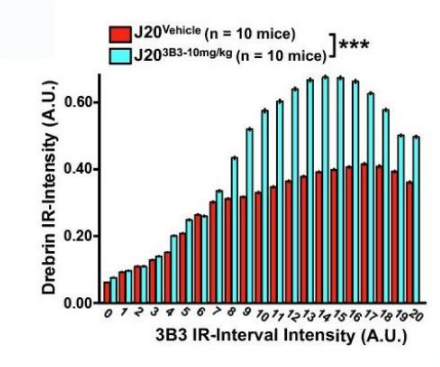
Functional Consequences Following ACU3B3 Treatment

2. Reduced amyloid deposition and increased spine density



From manuscript in prep; data collected by lab of Jorge Palop, Gladstone Institute

- ACU3B3 (murine oligomer selective antibody) treatment ***prior*** to plaque pathology leads to reduced amyloid deposition in J20 Tg model (5-7 months)
- Treatment effects are less prominent in aged animals (16-23 months)
- Evidence of synaptic recovery in advanced stages of pathology in contrast to minor effects on plaque deposition

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