KalVista Pharmaceuticals

Corporate Overview

September 2023

Forward-Looking Statements

This presentation and the accompanying oral presentation contain “forward-looking” statements within the meaning of the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as: "anticipate," "intend," "plan," "goal," "seek," "believe," "project," "estimate," "expect," "strategy," "future, "likely," "may," "should," "will" and similar references to future periods. Examples of forward-looking statements include, among others, statements we make regarding our future financial performance, business plans and objectives, timing and success of our clinical trials, our ability to obtain regulatory approval or the timing of regulatory filings, the potential therapeutic benefits and economic value of our lead product candidates, financing plans, competitive position, industry environment and potential market opportunities.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following: those related to our future financial performance, our ability to raise additional funding when needed, our ability to develop and maintain partnerships, our ability to identify and develop new products in a timely manner, the outcome, cost and timing of our product development activities and clinical trials, market size and acceptance of our products, our ability to maintain, protect and enhance our brand and intellectual property, our ability to continue to stay in compliance with applicable laws and regulations, our ability to scale our business and make key hires and such other factors as discussed under the section titled “Risk Factors” and elsewhere in our Annual Report on Form 10-K, definitive proxy statement and quarterly reports on Form 10-Q that we file with the Securities and Exchange Commission (“SEC”) as well as our other filings and the documents incorporated by reference therein, with the SEC.

Any forward-looking statement made by us in this presentation and the accompanying oral presentation is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise. Certain information contained in this presentation may be derived from information provided by industry sources. We believe such information is accurate and that the sources from which it has been obtained are reliable. However, we cannot guarantee the accuracy of, and have not independently verified, such information.

This presentation shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

Company Highlights

- Discovery, development, and commercialization of oral, small molecule protease inhibitors
- Lead program sebetralstat for on-demand treatment of orphan disease hereditary angioedema (HAE)
- Sebetralstat phase 3 KONFIDENT trial data anticipated Q4 2023, NDA H1 2024
- Sebetralstat would be first oral on-demand HAE therapy and has market transformation potential
- Preclinical oral Factor XIIa program advancing towards IND
  - Initial development in HAE, additional potential indications include thrombosis, inflammation
- All programs internally developed, with full rights and IP protection to at least late-2030s
- Funded into 2025 with $123 million at July 31, 2023

Program Portfolio

Product	Indication	Preclinical	Phase 1	Phase 2	Phase 3	Status
Sebetralstat	On-Demand HAE	KONFIDENT				Achieved target enrollment
		KONFIDENT-S (Open-Label Extension)				Trial enrolling
		Orally Disintegrating Tablets				Advancing to sNDA as lifecycle extension
Oral Factor XIIa	HAE Prophylaxis					Advancing towards IND
Oral Factor XIIa	Thrombosis, inflammation					Future opportunities under evaluation

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Hereditary Angioedema (HAE)

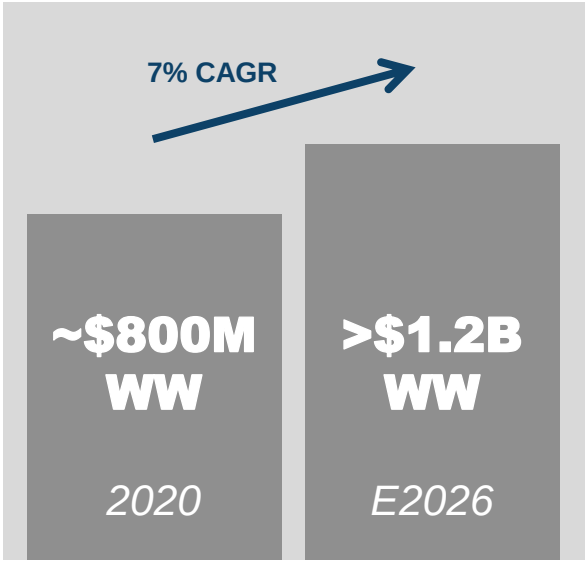
Hereditary Angioedema (HAE)

- Genetic condition causing painful and pronounced swelling in various parts of the body
  - Primarily caused by defect in C1 inhibitor activity, which leads to uncontrolled plasma kallikrein activity and bradykinin release
- Orphan disease: incidence 1 in 10,000 to 1 in 50,000[1]
  - Minimum of 6,500 – 8,000 patients in US; similar in EU
  - Incidence consistent worldwide; average patient has ~2 attacks/month
- Approved therapies are primarily injected/infused - high unmet need for efficacious oral administration

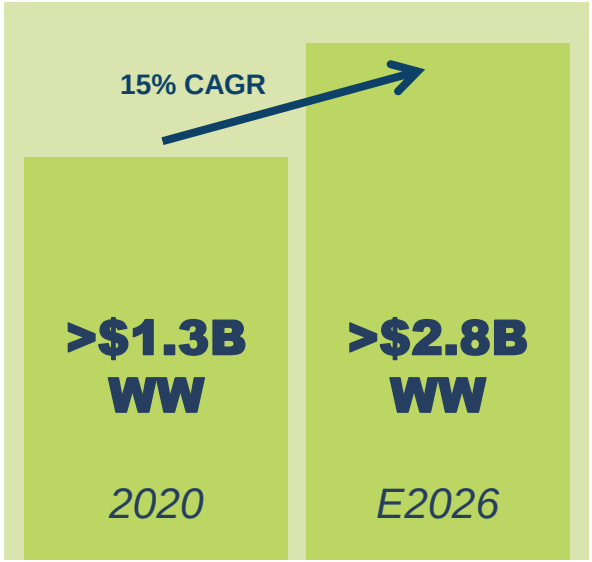
[1]*www.haei.org*

Branded HAE Market Estimated To Be $4B Revenues By 2026

On-demand/ Breakthrough Treatment



Prophylaxis



Additional Market Growth

Untreated
Half or more of attacks are not currently treated, including in prophylaxis

Undiagnosed
30-60% globally

Normal C1-INH HAE (currently **no treatments**)

All market revenue estimates source: EvaluatePharma; other sources: KalVista data on file

The Sebetralstat Market Opportunity

Leading Share of Existing On-Demand Market:
90k+ units/yr at branded prices

+

Increased treatment of attacks for both prophy and on-demand patients

+

Patients switching back from prophy

- Seeking efficacious and safe oral option
- More cost effective for many

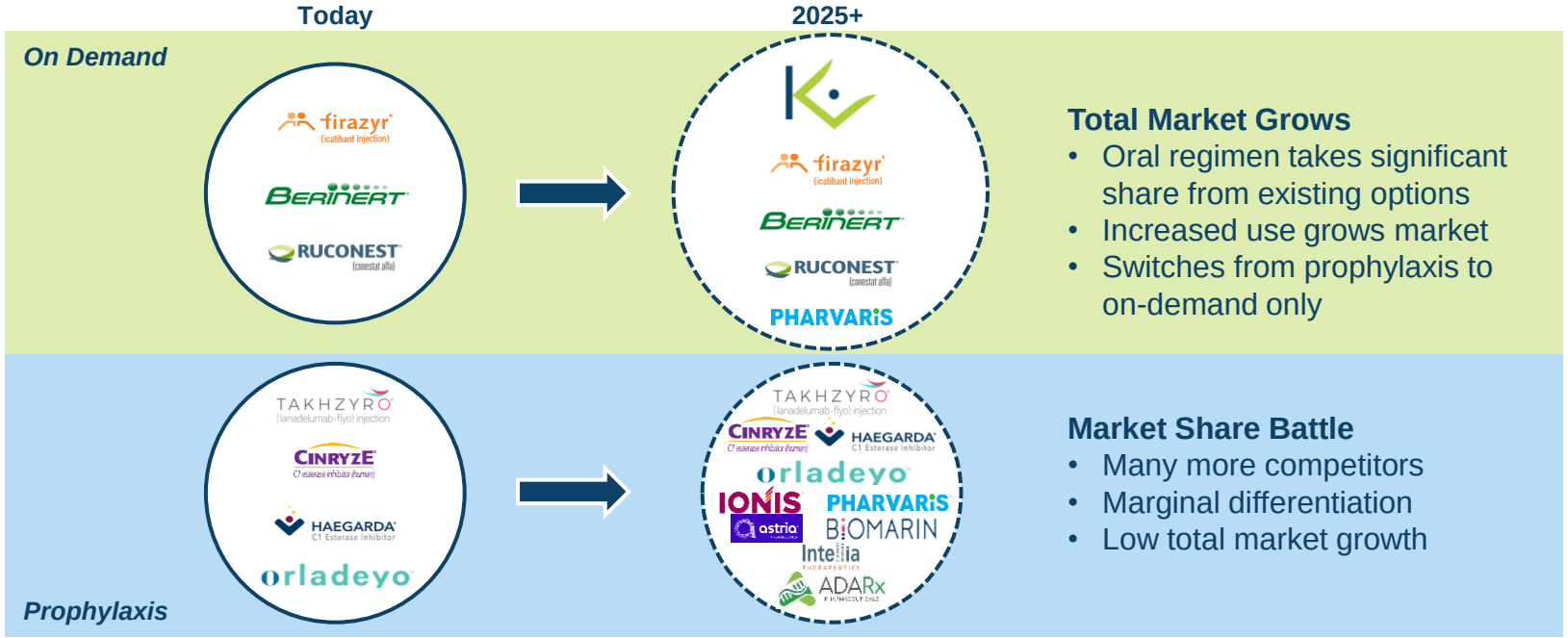
+

Future Indications

- Normal C1-INH HAE
- Short-term prophylaxis
- Pediatrics 2-12

We Believe The On-Demand Opportunity Is Attractive

- Scripts for both prophylaxis and on-demand have been stable since 2019*
- No evidence of shift from on-demand to prophylaxis



*IQVIA script data 2019-current

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Sebetralstat: HAE On-Demand Therapy

Level Of Unmet Need In HAE Therapy Is Underappreciated

The goal of treatment is to minimize compromises in lifestyle, but attacks still cause anxiety and impact quality of life

Anxiety and depression are common in people living with HAE

Even people taking prophylaxis continue to experience HAE attacks

96% of people living with HAE on prophylaxis feel they must change their plans for the day when an attack occurs[3]

People living with HAE prefer to treat at home to avoid treating attacks in public

People try to "save" doses and some studies show 50% or more of attacks aren't treated at all[1,2]

[1]Maurer M, et al. Hereditary Angioedema Attacks Resolve Faster and Are Shorter after Early Icatibant Treatment. PLoS ONE. 2013;8(2):e53773. [2]Longhurst H J et al. Real-world outcomes in hereditary angioedema: first experience from the Icatibant Outcome Survey in the United Kingdom Allergy Asthma Clin Immunol. 2018;14: 28. [3] KalVista data on file

Prophylaxis Users Still Make Compromises To Avoid Triggers

Despite being on prophylaxis therapy, the need for on-demand treatment has impacted aspects of respondents' lives:

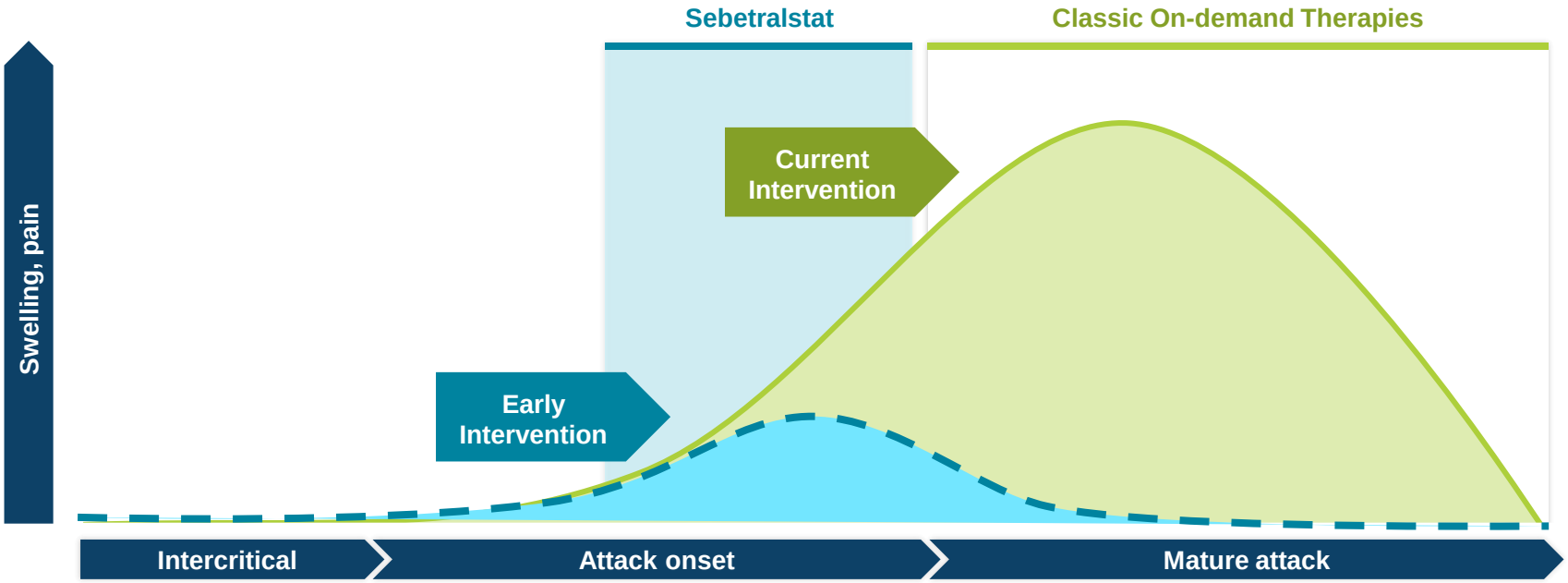
The Sebetralstat Treatment Vision Is Much Better

- Patients treat at **first recognition** of attack
- Halt attack at **earliest stages**

- Patients **treat all attacks**, since it is impossible to predict which ones will **escalate in severity**
- Current **barriers** to treatment are **removed**

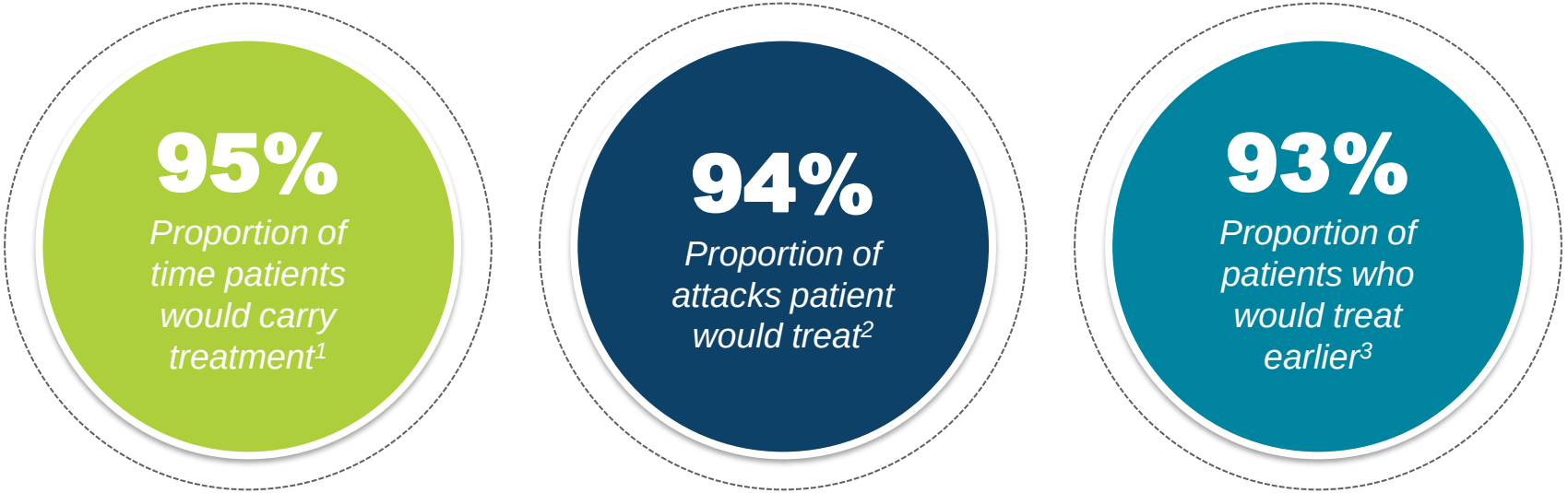
- Sebetralstat dosing is **simple** with easy-to-take **tablets**
- Patients can **easily carry, store and access** when needed
- **Oral disintegrating tablet** a potential future benefit for **pediatrics** and other patients

“Flattening the Curve” Of HAE Attack Progression



Oral On-Demand Is A Meaningful Improvement For Patients

Patients say an on-demand oral treatment would simplify the treatment decision and change how and when they treat attacks



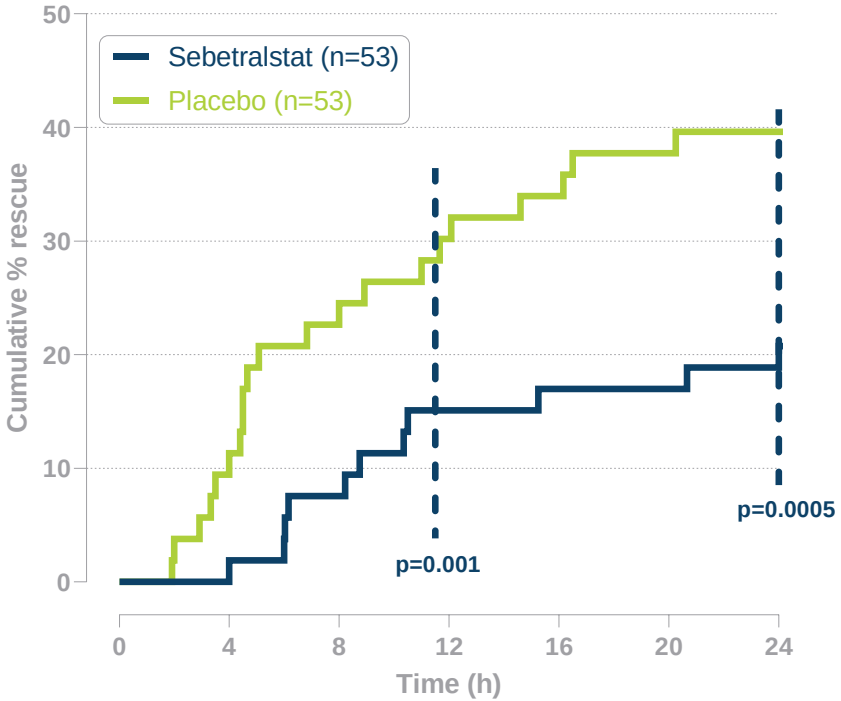
1. *Percent of time patients would carry an effective oral on-demand treatment with them outside the home.*
2. *What percentage of attacks would you treat with an HAE on-demand pill/tablet?*
3. *Would you treat your attacks faster/earlier with an HAE on-demand pill/tablet?*

Data on File. KalVista Pharmaceuticals, Inc.

Positive Sebetralstat Phase 2 Clinical Trial Results

- Sebetralstat met all primary and secondary endpoints
  - Including endpoint being used as primary in ongoing KONFIDENT phase 3 study
- Sebetralstat enables early intervention to maximize treatment success
  - Median time to treatment was 30 minutes
- Significantly improved patient-reported outcomes of treatment effect and attack severity
  - Reduced time to beginning of symptom relief, time to improved attack severity, and attack resolution
- Sebetralstat was generally safe and well tolerated
  - No serious adverse events reported, and no patients withdrew due to adverse events

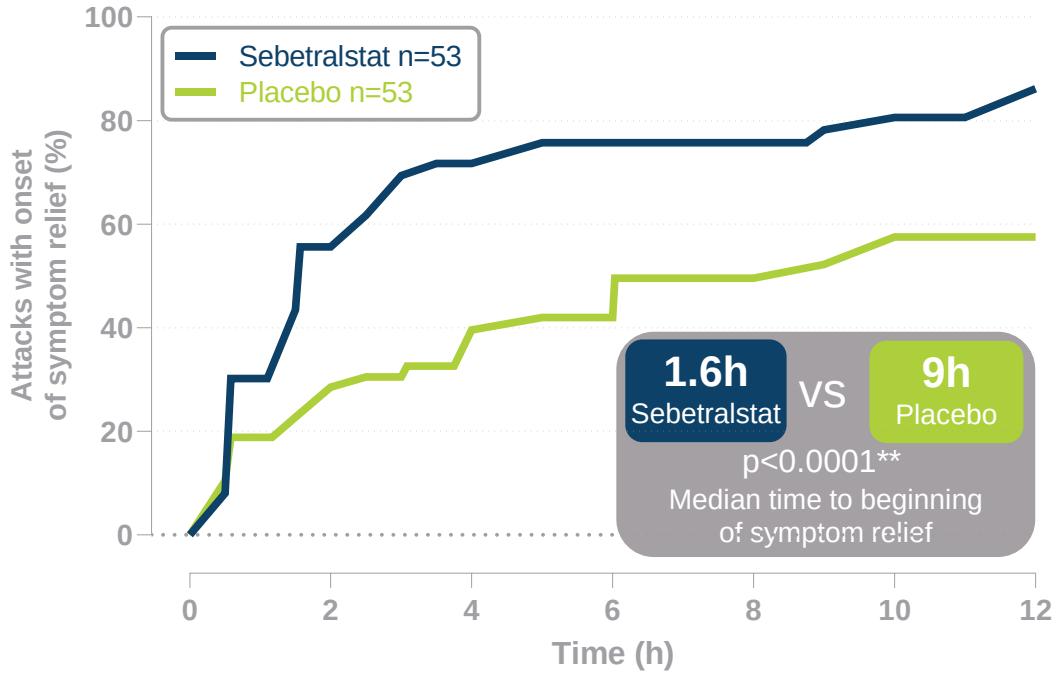
Sebetralstat Met Primary Phase 2 Endpoint



- Sebetralstat significantly increased time to rescue within 12 hours: p=0.001*
  - Placebo 30.2%
  - Sebetralstat 15.1%
- Efficacy maintained at 24 hours
  - p=0.0005*

*Gehan's Generalized Wilcoxon Test

Sebetralstat Reduced Time To Beginning Of Symptom Relief

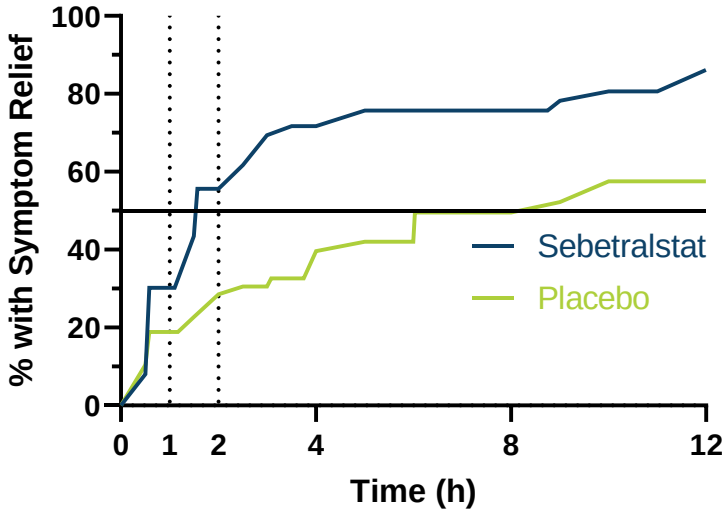


- Assessed using Patient Global Impression of Change (PGI-C)
- Highly significant treatment effect compared to placebo
- **Phase 3 primary endpoint**

***Gehan's Generalized Wilcoxon Test Full analysis set*
Censoring occurs where HAE attack was not rated "a little better" or higher or conventional attack treatment was used within 12h
Data on File. KalVista Pharmaceuticals, Inc.

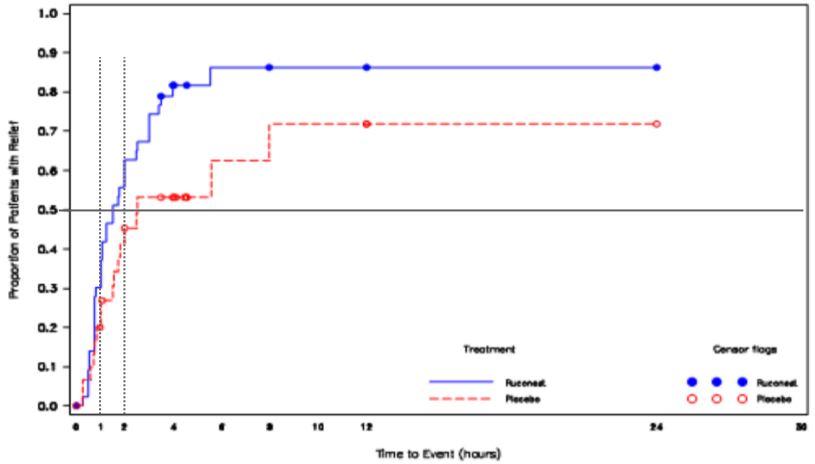
Sebetralstat Similar To IV-Injected Ruconest (rC1-INH)

Sebetralstat 1.6 hours; Placebo 9 hours
p<0.0001*
Patient Global Impression of Change (PGI-C)



Ruconest 1.5 hours; placebo 2.5 hours
p =0.031
Primary endpoint Ruconest Phase 3

Study 1310: Kaplan-Meier Plot of Time to Beginning of Relief of Symptoms with Persistence (Based on Questions 1 and 2 of the TEQ, with Persistence) in the RCT Phase: RCT ITT Analysis Set



**Gehan's Generalized Wilcoxon Test*
Ruconest data from Charles M. Maplethorpe, MD, PhD. Clinical Reviewer. Summary Basis of Approval, Recombinant C1 Esterase Inhibitor, STN: 125495/0. The results of the trials for sebetralstat and Ruconest may not be directly comparable, as they are not from a single head-to-head clinical trial

Sebetralstat Phase 3 Trial Design

KONFIDENT™
SEBETRALSTAT CLINICAL TRIAL

- Double blind, event-driven, crossover trial assessing 300 mg and 600 mg sebetralstat versus placebo
- Each patient treats 3 attacks at home
  - One with each treatment in a randomized, blinded sequence
  - Patients can take an additional dose if symptoms warrant, no statistical impact on primary or secondary endpoints

Primary endpoint:
- Time to beginning of symptom relief (PGI-C)

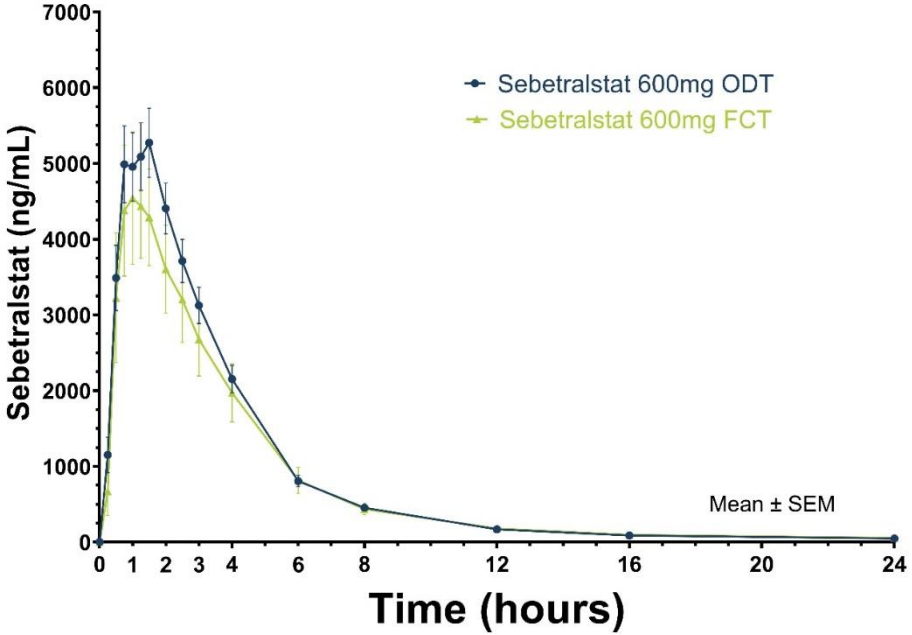
Key secondary endpoints:
- Time to improvement (PGI-S)
- Time to resolution (PGI-S)

Sebetralstat Phase 3 Trial Design And Timing

- KONFIDENT will end when approximately 84 patients have completed three attacks
  - HAE type 1 and 2, including adults, adolescents and patients with ongoing prophylaxis
  - All attack locations eligible, including laryngeal attacks
- FDA-agreed primary endpoint: time to beginning of symptom relief using PGI-C
  - *A priori* secondary endpoint in phase 2 trial
  - Expected to be sufficient to file NDA
  - FDA does not recommend the use of VAS to support the primary or key secondary endpoints
- At least 90% power to detect treatment differences vs placebo
- Achieved target enrollment June 2023; Data anticipated Q4 2023, NDA filing H1 2024

Orally Disintegrating Tablet (ODT) Further Enhances Options For Patients

- ODT increases ease of dosing for younger patients or those with difficulty swallowing
- Phase 1 data shows similar pharmacokinetics to current film-coated tablets (FCT)
- Expected to be lifecycle extension in US and EU; potentially launch formulation in other geographies



*Data on File. KalVista Pharmaceuticals, Inc.

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Factor XIIa

Oral Factor XIIa Designed To Meet Unmet Need In HAE Prophylaxis

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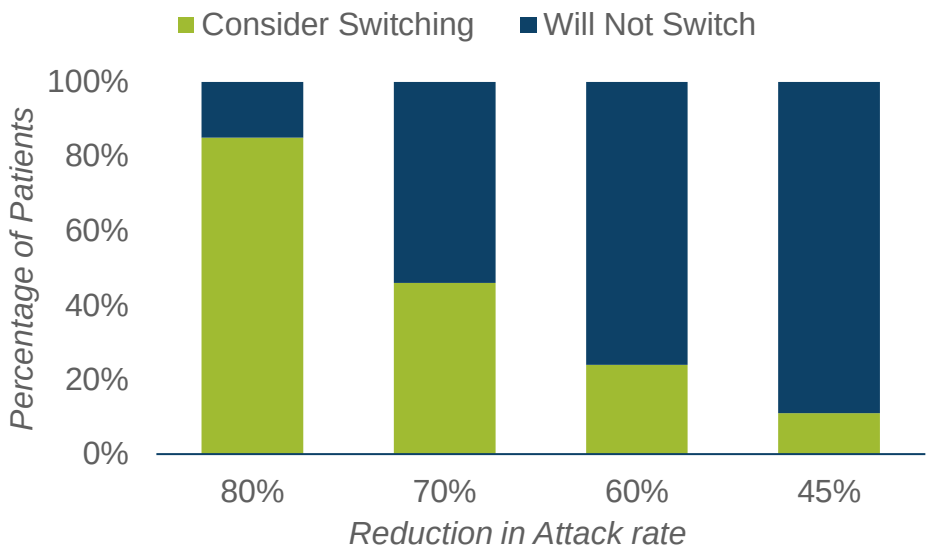
Patients will not trade lower efficacy for oral dosing

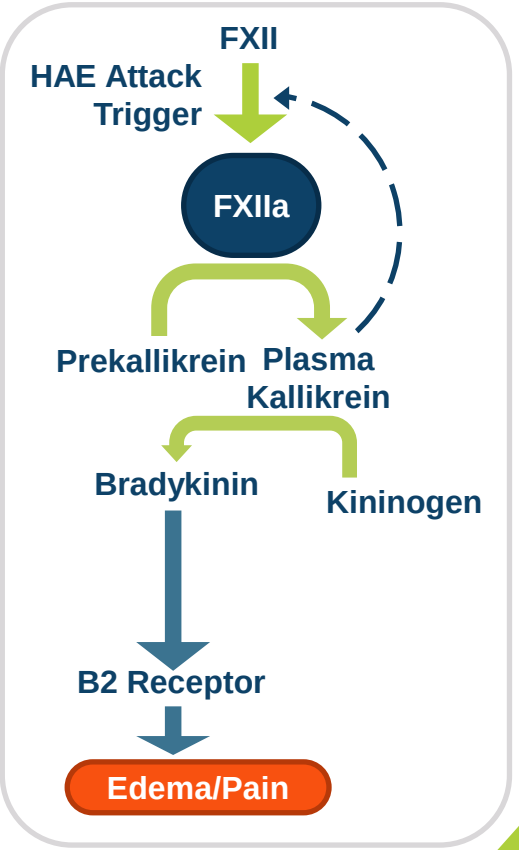


Our goal is to achieve an oral treatment with an efficacy, safety, and tolerability profile similar to injectable treatments

**KalVista data on file*

Factor XIIa Sits At Top Of HAE Attack Cascade

- Factor XIIa (FXIIa) activates the kallikrein kinin system
  - Generates plasma kallikrein, leading to uncontrolled bradykinin release in HAE
  - FXIIa and plasma kallikrein inhibitors selectively block bradykinin generated by the plasma kallikrein kinin system, unlike bradykinin receptor antagonists
- FXIIa inhibitory antibody has been shown clinically to reduce HAE attack frequency
  - At least as efficacious as approved therapies against other targets
  - No known chronic safety implications

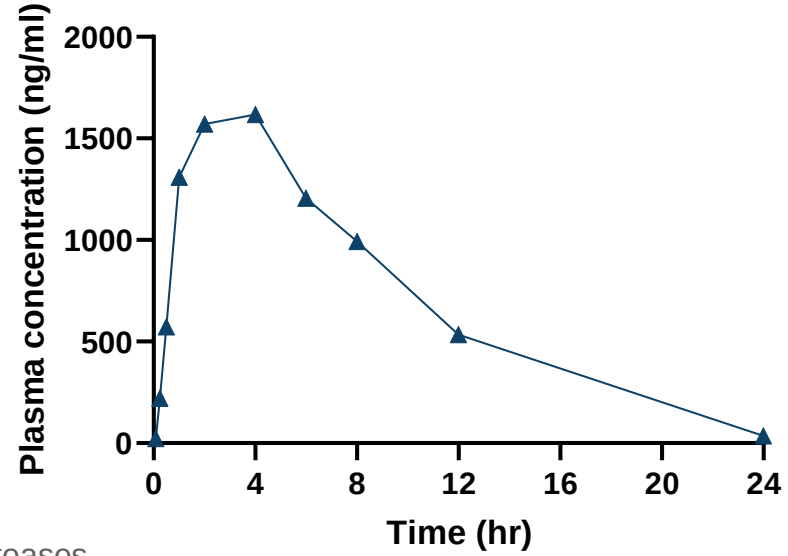


KalVista Is Building A Portfolio Of Potent, Oral FXIIa Inhibitors

High potency for FXIIa in multiple series

Compound	FXIIa IC_{50} (nM)	Series
1	10	A
2	9.7	A
3	12	B
4	1.9	B
5	7.8	C
6	7.5	C
7	3.5	C
8	2.7	C

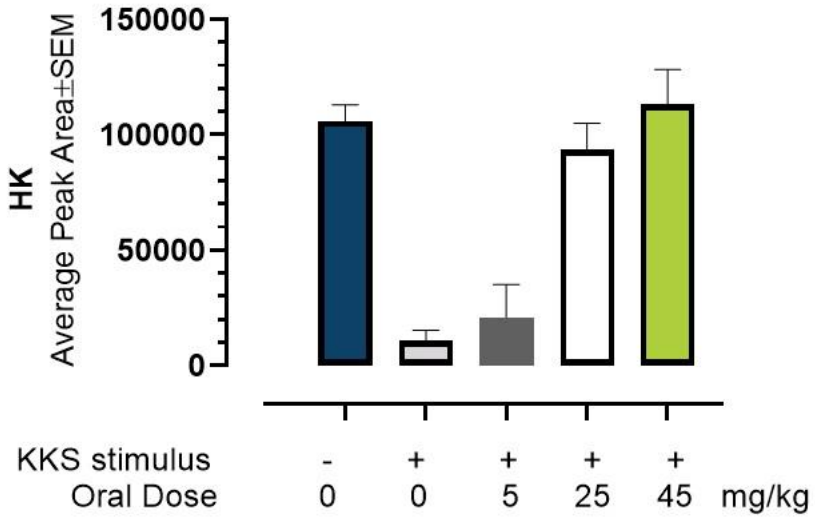
Plasma exposure following oral dosing in rats



- High potency and >1000-fold selectivity against other proteases
- Oral profiles consistent with once-daily dosing in humans
- Multiple distinct series reduce risk, yield broader IP and support development for multiple indications

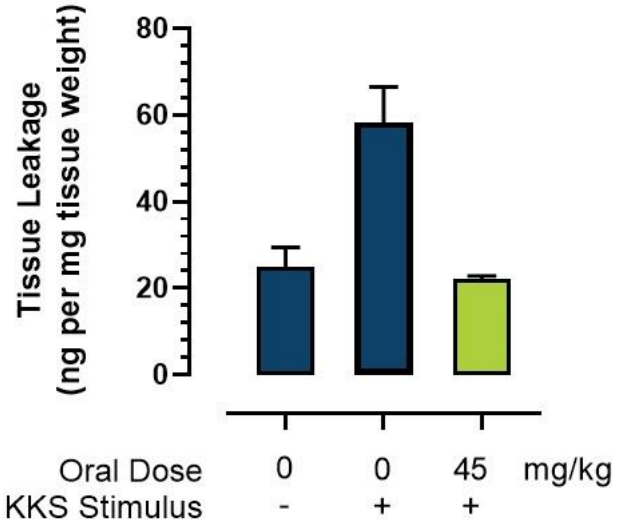
Orally Delivered FXIIa Inhibitor Blocks Kallikrein-Kinin System Effects In Mouse Models Of Angioedema

Blocks cleavage of kininogen and release of bradykinin



Carrageenan-stimulated paw edema model

Prevents angioedema in HAE-related tissues



Angiotensin-converting enzyme inhibitor angioedema model

**Presentation at 2022 EAACI congress: https://www.kalvista.com/sites/default/files/EAACI%202022%20Presentation%20Clermont.pdf*

Factor XIIa Inhibitor Program Is Advancing

- Strong scientific rationale and positive clinical evidence for FXIIa inhibition in HAE prophylaxis
- KalVista is advancing the first oral FXIIa inhibitors towards the clinic – no known competitors in oral therapy
- FXIIa implicated in other indications that may represent large future opportunities, including thrombosis and inflammation
- Program IND timing adjusted in July 2023 due to compound-specific potential for drug-drug interaction challenges identified with lead candidates
  - Newer compounds have been developed that avoid this liability, optimization now ongoing

KalVista Value Proposition

- The only company developing distinct oral treatments for the full spectrum of HAE disease management
- Sebetralstat on-demand phase 3 KONFIDENT data expected Q4 2023, NDA H1 2024
- Sebetralstat will be the first oral on-demand therapy and has market transformation potential
- Oral FXIIa inhibitor program future growth opportunity
  - Initial development in HAE prophylaxis, based on clinical validation of target and high unmet need
  - FXIIa also has potential in large market opportunities in other therapeutic areas, including inflammation and thrombosis
- Funded into 2025

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NASDAQ: KALV