GENERATIVE AI

DRUG CREATION

Corporate Presentation
May 2026

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From Code to Clinic

1. AI NATIVE PLATFORM

- Interdisciplinary Team with 10+ approved drugs and AI expertise
- Integrated Lab-in-the-Loop leveraging 77k ft² automated wet-lab
- Leading AI platform for *de novo* design and AI optimization of antibody-based therapeutics

2. DIFFERENTIATED PIPELINE

- ABS-201 (anti-prolactin receptor)
  - Androgenetic Alopecia (AGA): Accelerated Ph1/2a trial on track to initiate December 2025, with interim POC readout 2H 2026
  - **Endometriosis (Endo):** Indication expansion into endometriosis with anticipated Ph2 initiation in 4Q2026 with PoC readout as early as 2H 2027
- **Preclinical pipeline** focused on metabolism and I&I

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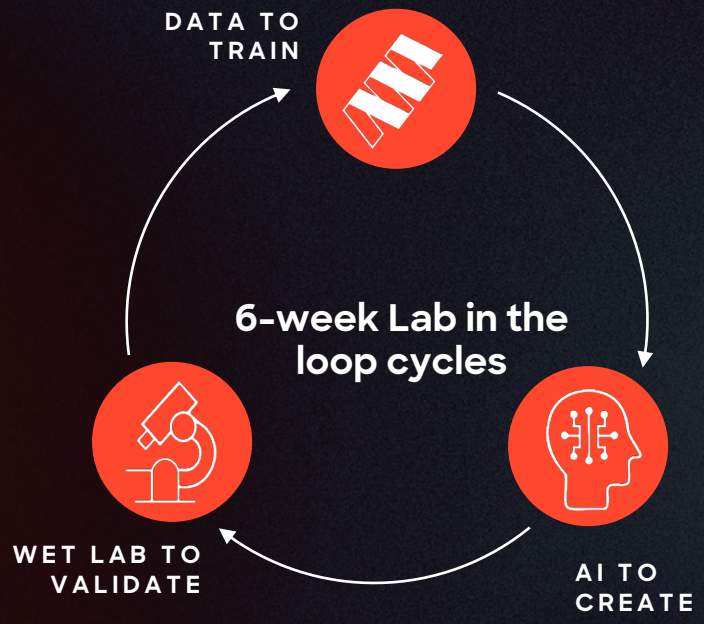
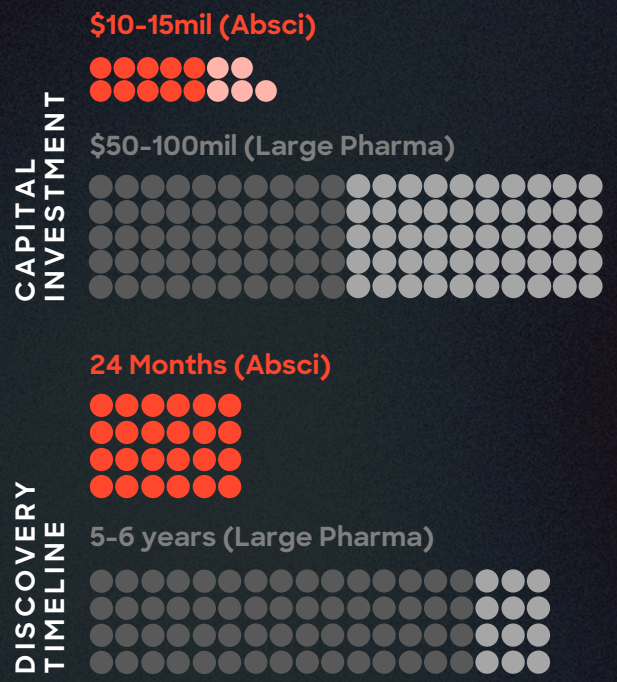
Industrializing Drug Discovery





1. **ABS-201 FOR ANDROGENETIC ALOPECIA**
   Category re-defining opportunity for AGA in Ph1/2a trials
2. **ABS-201 FOR ENDOMETRIOSIS**
   Disease modifying opportunity for Endometriosis in Ph1 trials
3. **ABS-101 FOR IBD**
   Demonstrated improved half-life and tissue penetration vs 1st gen TL1a molecules and ready for partnering

INDUSTRIALIZED AI x WET-LAB ENGINE

INCREASING 'SHOTS-ON GOAL' WITH FASTER AND CAPITAL EFFICIENT DISCOVERY

DELIVERING 3 CLINICAL-STAGE PROGRAMS TO DATE

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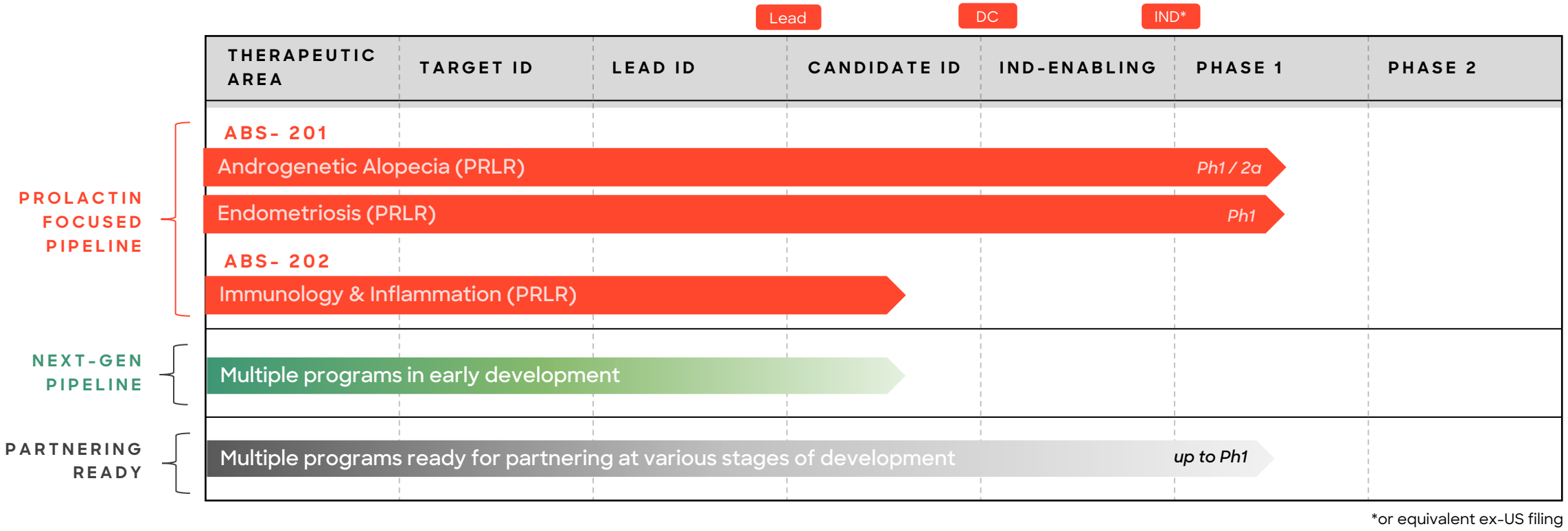
Advancing and expanding our pipeline of novel & differentiated assets designed using AI



*or equivalent ex-US filing

ABS-201 has the potential to unlock a wholly new category of therapy in hair “re-growth”

1. Significant clinical and commercial unmet need in androgenetic alopecia

2. Strong scientific rationale, with validated target, de-risked Mode of Action, and pharmacology

3. Straightforward development path with objective endpoints

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Underserved patient population looking for therapeutic innovation

~80 million Americans live with androgenetic alopecia (AGA)

MALE AGA

~50M men in the U.S.

Only 2 FDA approved drug therapies

FEMALE AGA

~30M women in the U.S.

Only 1 FDA approved drug therapy for women

Growing patient population with limited therapeutic options and concerns of adverse side-effects

Last FDA approved therapy for androgenetic alopecia was in the 1990s

Patients and clinicians need better treatment options for “hair re-growth”

- Hair re-growth, not just slowing of hair loss
- Safe and minimal side effects
- Durable effect
- Convenient administration frequency
- FDA approved

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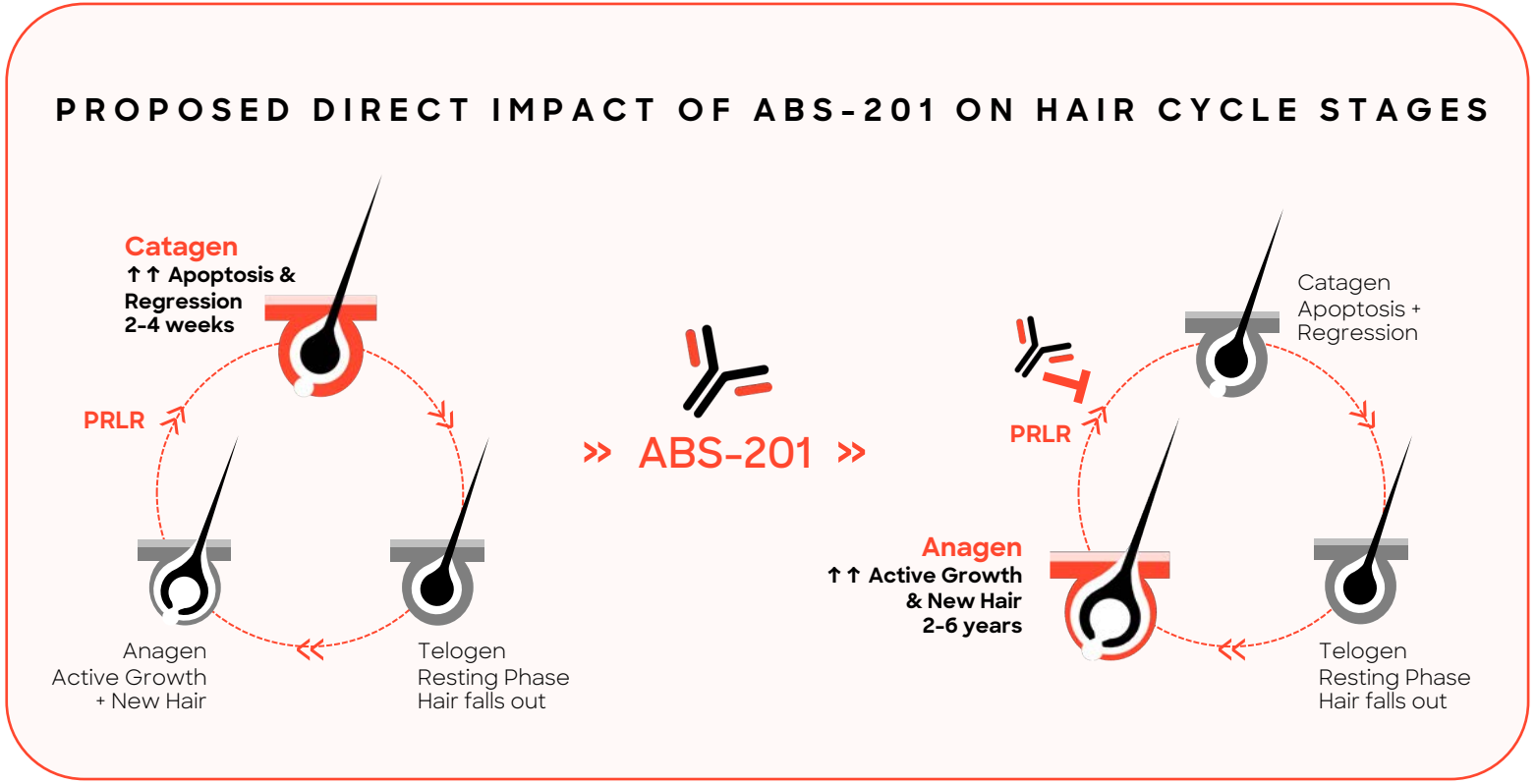
PRLR inhibition for androgenetic alopecia is an innovative alternative to current treatment options



ABS-201 HAS THE POTENTIAL TO:

- **Shift the balance in hair cycle stage towards anagen phase[1,2] with:**
  - Active and new hair growth
  - Prevention of telogen effluvium
- **Promote a long-lasting effect after treatment cessation**
- **Block cessation of pigmentation, which may lead to the restoration of hair pigmentation[2]**

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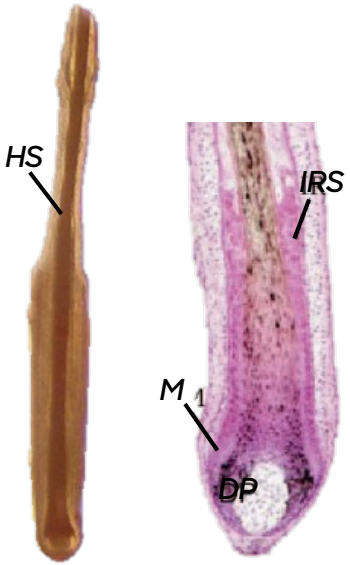
Prolactin impacts on organ-cultured human hair follicles

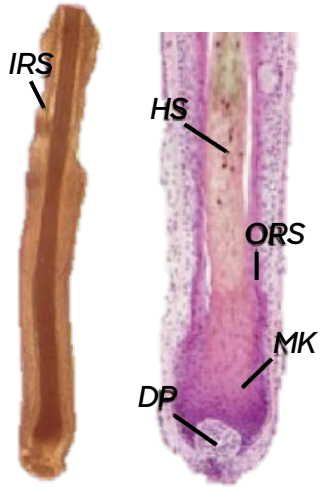
Prolactin drives hair follicle regression in human ex vivo culture

Anagen VI



Vehicle

Catagen III



400 ng/ml prolactin

Prolactin prematurely induces a catagen-like stage in organ-cultured human hair follicles[1] characterized by:

- Condensed shape of the dermal papilla (DP)
- Diminishment of the hair matrix volume
- Apparent cessation of pigmentation
- Inhibition of hair shaft elongation

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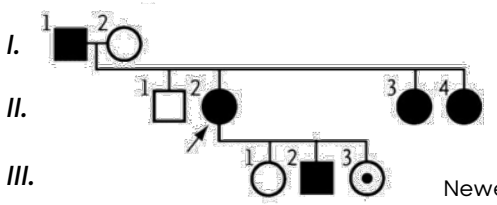
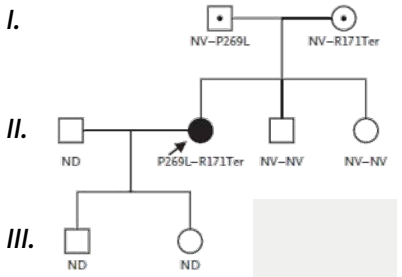
PRLR inhibition anticipated to be safe & well tolerated as supported by human genetics

Dominant negative
PRLR loss-of-function



Newey & Phil , 2013 NEJM

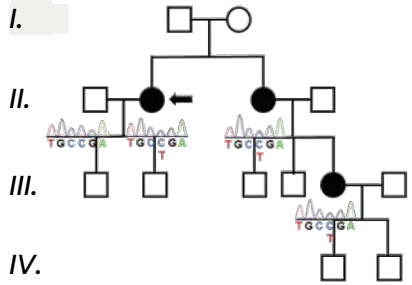
Compound heterozygous
PRLR loss-of-function



NV = Nonvariant
ND = Not determined

Kobayashi, 2018 NEJM

Dominant negative
PRL loss-of-function



Moriwaki, 2021 JCEM

Reduced/Loss of PRL or PRLR Signaling

- Postpartum agalactia
- Otherwise in good health:
  - No apparent impact on fertility
  - No report on erectile dysfunction in male
  - Normal breast development and menses in females
  - Normal serum electrolytes and hormone levels (except elevated PRL in PRLR mutation carrier)
  - No reported abnormalities of other hypothalamic-pituitary axes

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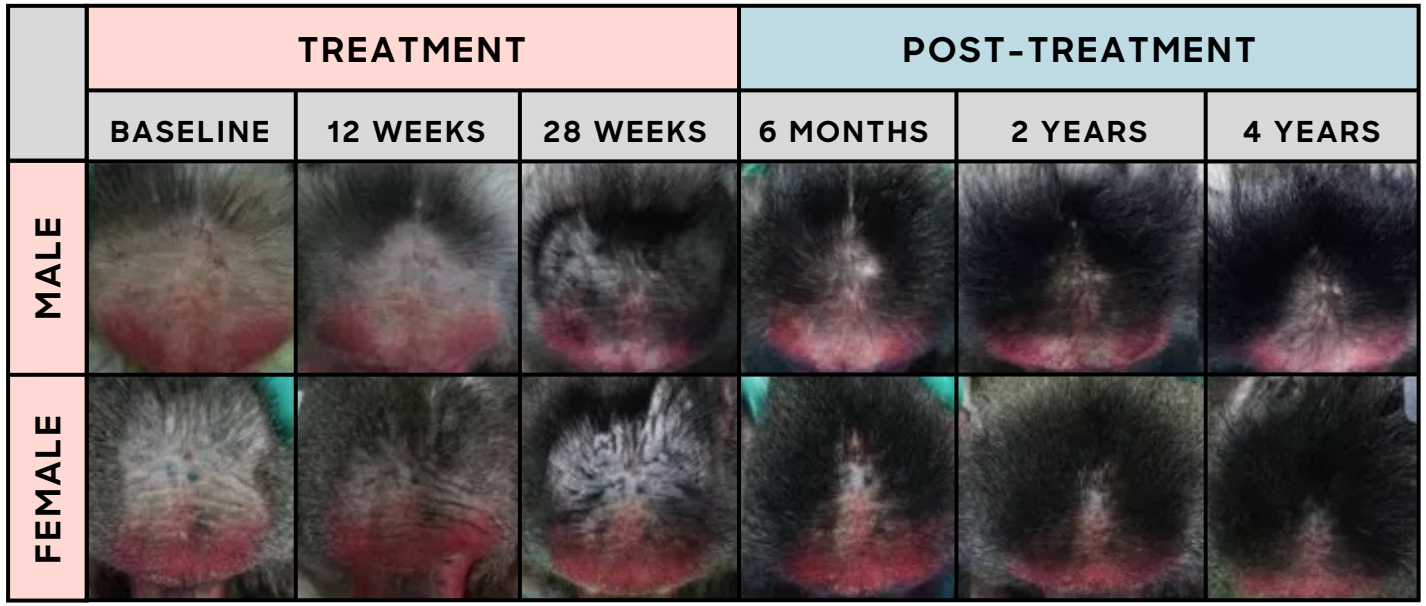
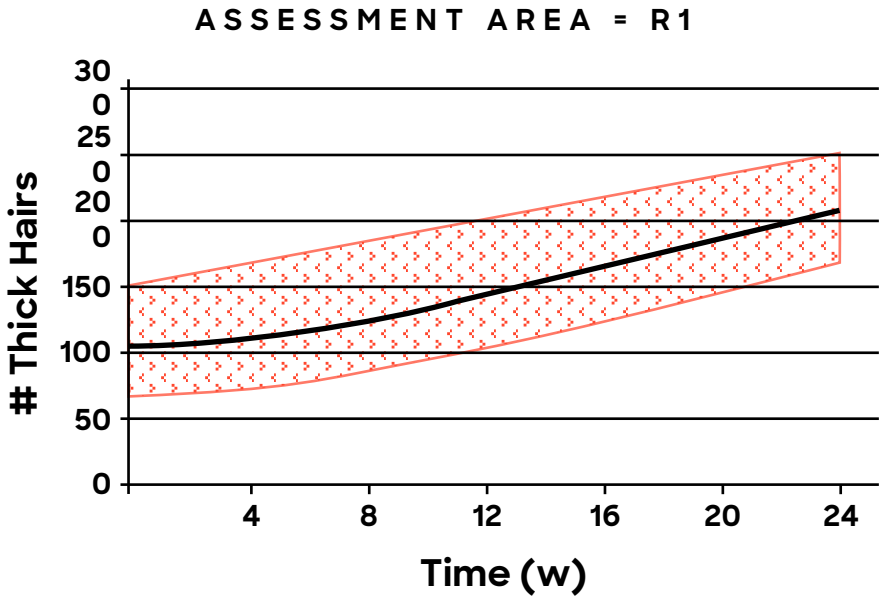
Top head view of Stumptailed Macaque's showing phenotypic change over time



40mg/kg s.c. Q2W for 28 weeks

Study commissioned by Absci CIO Andreas Busch while at Bayer.
Disclosure from competitor

Terminal hair count "Thick Hairs" in prior bald areas



- Hair density & thickness improved with short treatment duration in primate model of androgenetic alopecia
- Hair growth remains and improves several years post cessation

- Hair regrowth observed for both male and female animals (>100 hairs/cm2 increase in bald area at week 28 of treatment*)

*WO 2019/011719 A1

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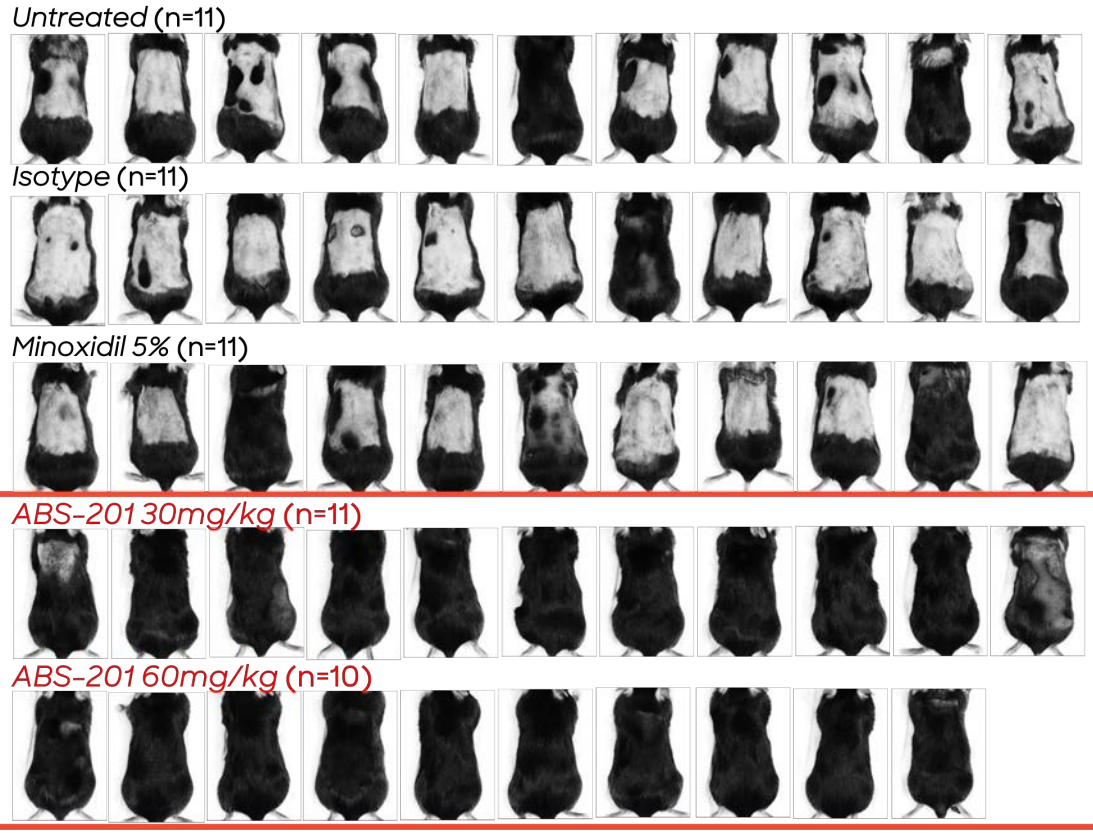
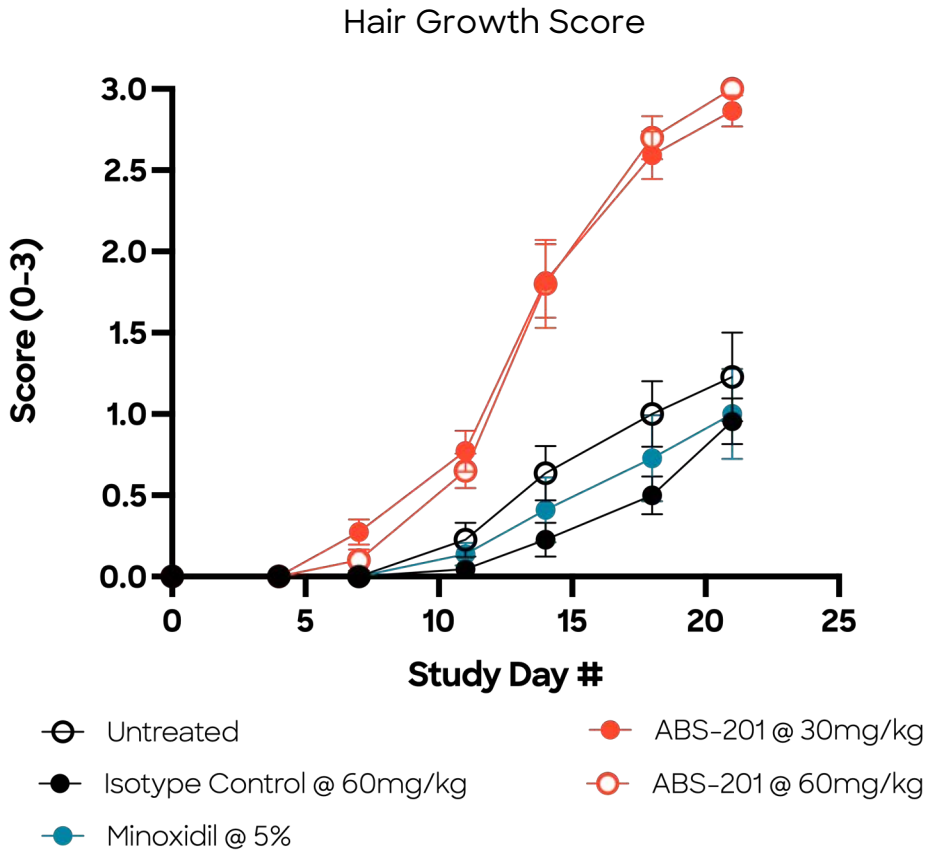
ABS-201 shows superior efficacy vs 5% topical minoxidil in 21d hair regrowth model



Administration: mAbs i.p. biweekly; Minoxidil topical daily



ABS-201 vs minoxidil/untreated/isotype **p<0.05; ***p<0.0001 - 2way ANOVA

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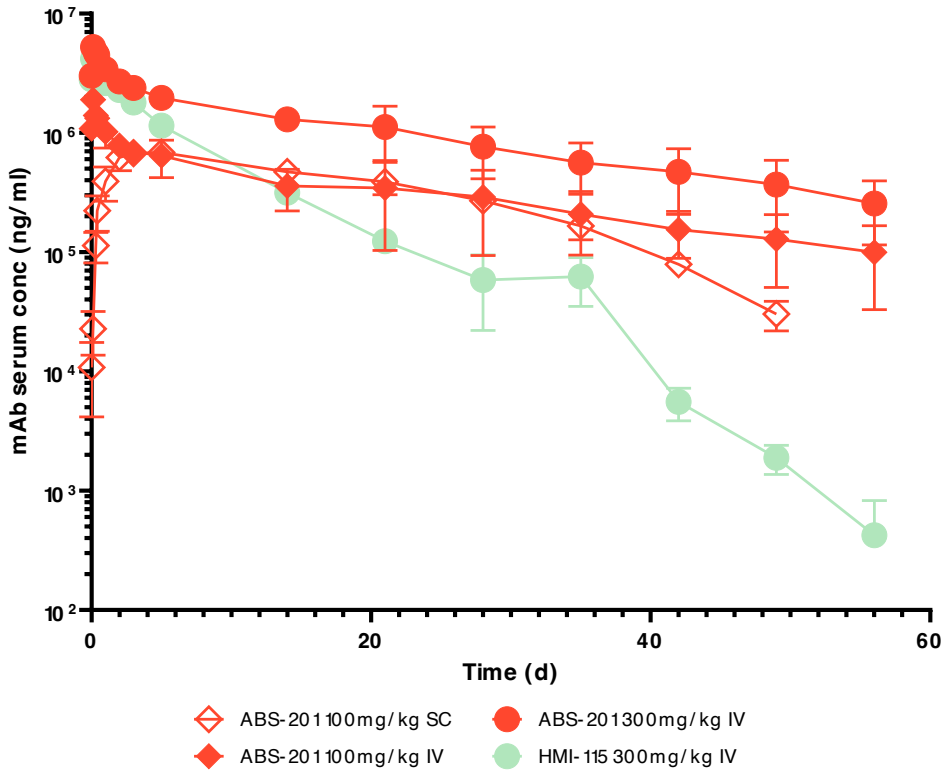
56 Day NHP PK data confirms extended half-life profile and high SC bioavailability

Single Dose Comparative PK Profile in NHP



Datapoints of animals with positive ADA rates impacting PK were excluded at corresponding timepoints onwards

NHP-PK 56 Day Results

- >3x extended half-life in NHPs compared to HMI-115
- High subcutaneous bioavailability in NHPs at >90%
- In silico prediction of Q8W-Q12W dosing intervals anticipated in humans
- Manufacturability & developability profile believed to enable future high concentration formulation targeting >150mg/mL

Based on PK/PD modeling, ABS-201 is anticipated to likely require only 2-3 doses over a 6-month treatment period, compared to HMI-115, which would likely require 6-12+* doses in the same period, assuming the AGA indication is pursued.

*assumption on HMI-115: 60mg/mL formulation and Q2W or Q4W dosing interval

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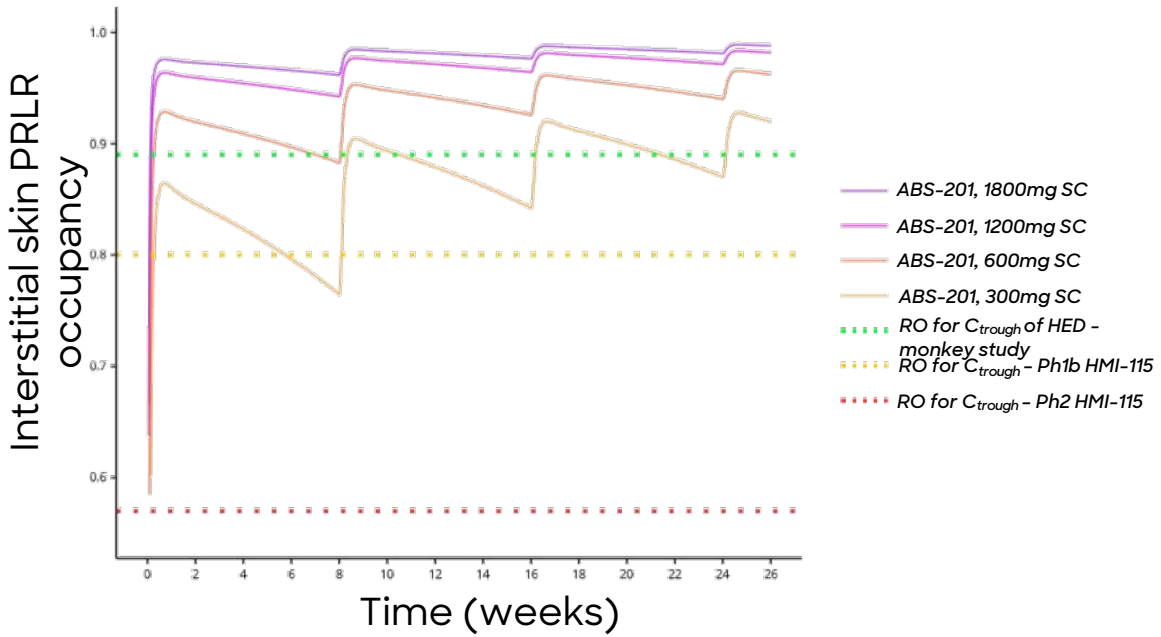
Modelling shows superiority of ABS-201 vs HMI-115 on PK & Receptor Occupancy



Preliminary in Silico Modeling

- >3x extended half-life in NHPs predicted to translate in humans to **Q8W-Q12W** dosing intervals
- PK profile predicted to translate into higher interstitial skin concentrations resulting in higher receptor occupancy

Modelling assumptions include published NHP and Ph1b PK data on HMI-115 (formerly BAY 1158061), as well as in house generated in vitro and in vivo data. Parameters incl. 0.2 skin exposure coefficient, 2.6 x 10^{-2} nM interstitial PRLR concentration

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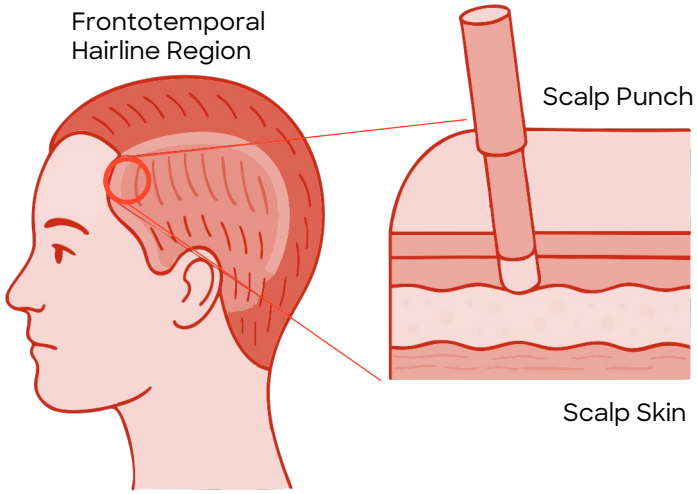
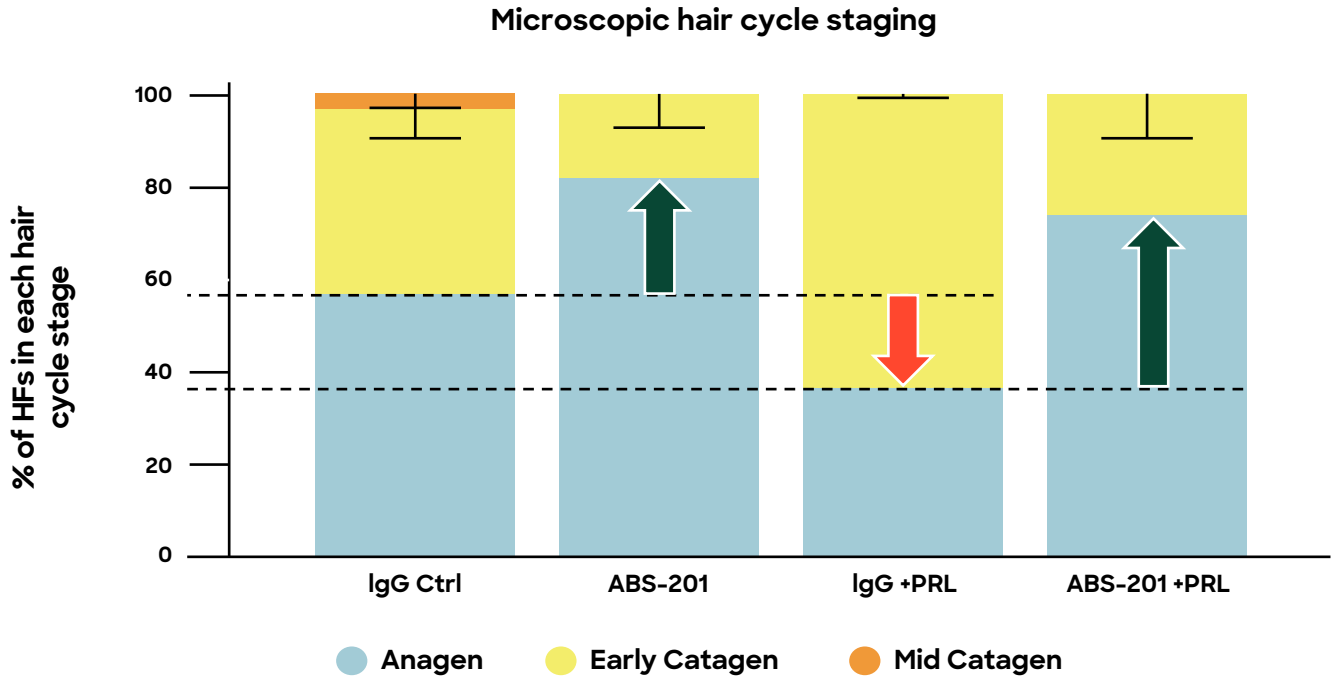
ABS-201 in human ex vivo culture study supports MOA in human scalp follicles



MODEL SYSTEM:

- Frontotemporal male scalp skin is the most androgenetic alopecia affected skin region
- Organ culture is the most relevant human preclinical hair research tool ex vivo

ABS-201 significantly prolongs anagen/inhibits catagen and stimulates hair matrix proliferation



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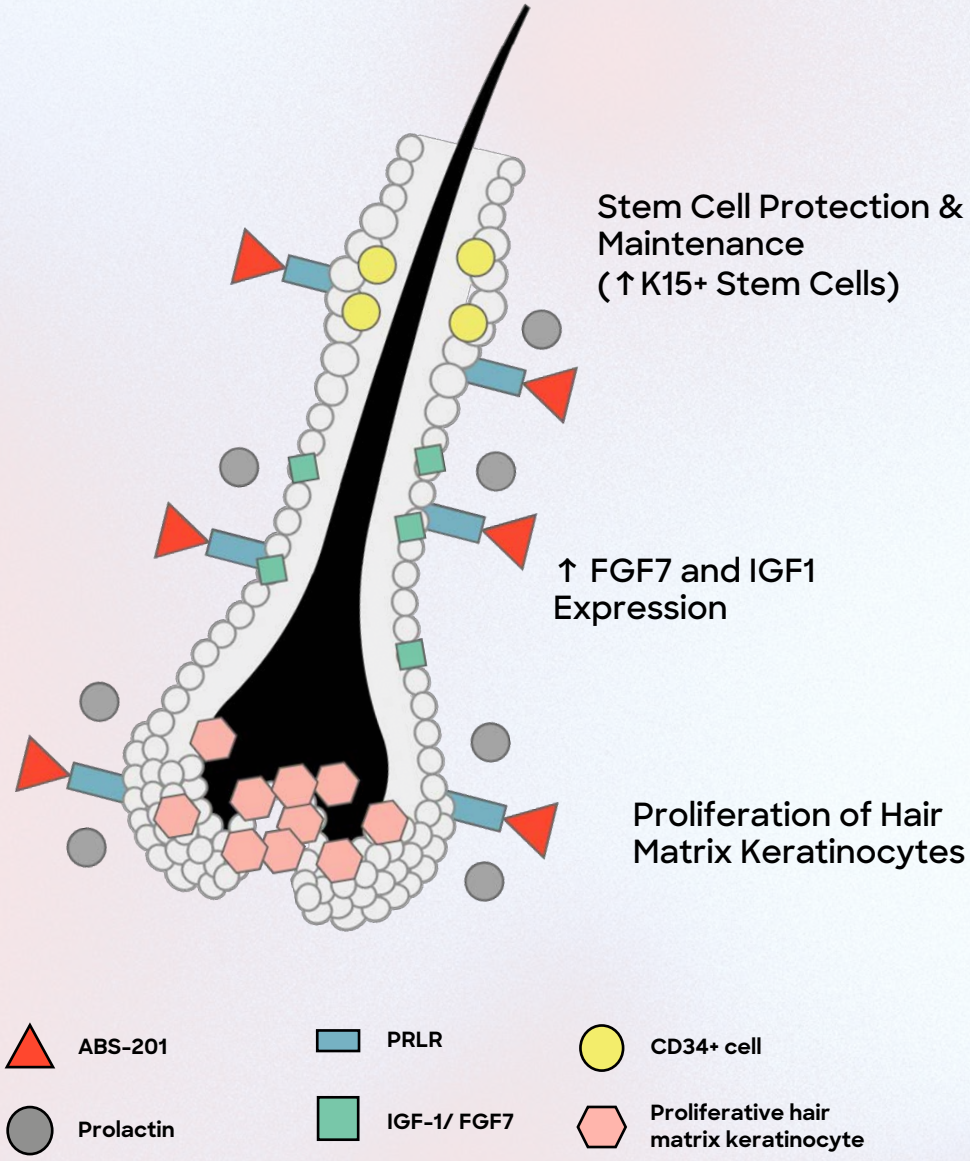

Additional ABS-201 *ex vivo* study found:

- Prolonging anagen phase and blocking catagen, thereby inhibiting telogen effluvium
- Protecting and promoting hair follicle stem cells and and restoring CD34+ progenitor cells
- Stimulating key hair growth factors (IGF1, FGF7)
- Decreasing catagen driver TGFβ-2
- Increasing hair shaft and hair shaft keratin production

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Phase 1/2a trial designed to provide readouts on safety, tolerability, and PoC in AGA

HEADLINE

Design Elements:

- Double-Blind, Placebo-controlled, FIH
- Multi-site study in Australia
- Dose range ensures predicted >90% RO

Population:

- Up to 227 male & female healthy participants
- SAD; n= 32 healthy volunteers
- MAD; n= 147 AGA subjects (Norwood Scale IIIv-V)
- Optional AGA cohorts in SAD/MAD; n= 48
- 3:1 randomization

Endpoints:

- **Primary:** Safety & Tolerability
- **Secondary:**
  - PK/PD
  - Efficacy readouts include target area hair count, width, and darkness (pigmentation)

Single Ascending Dose

Cohort 1	Cohort 2	Cohort 3	Cohort 4
150mg IV n=8	**450mg IV n=8**	**900mg IV n=8**	**1800mg IV n=8**

- All planned SAD cohorts dosed
- **Dec 2025:** Initiated
- **1H 2026:** PK and interim safety expected

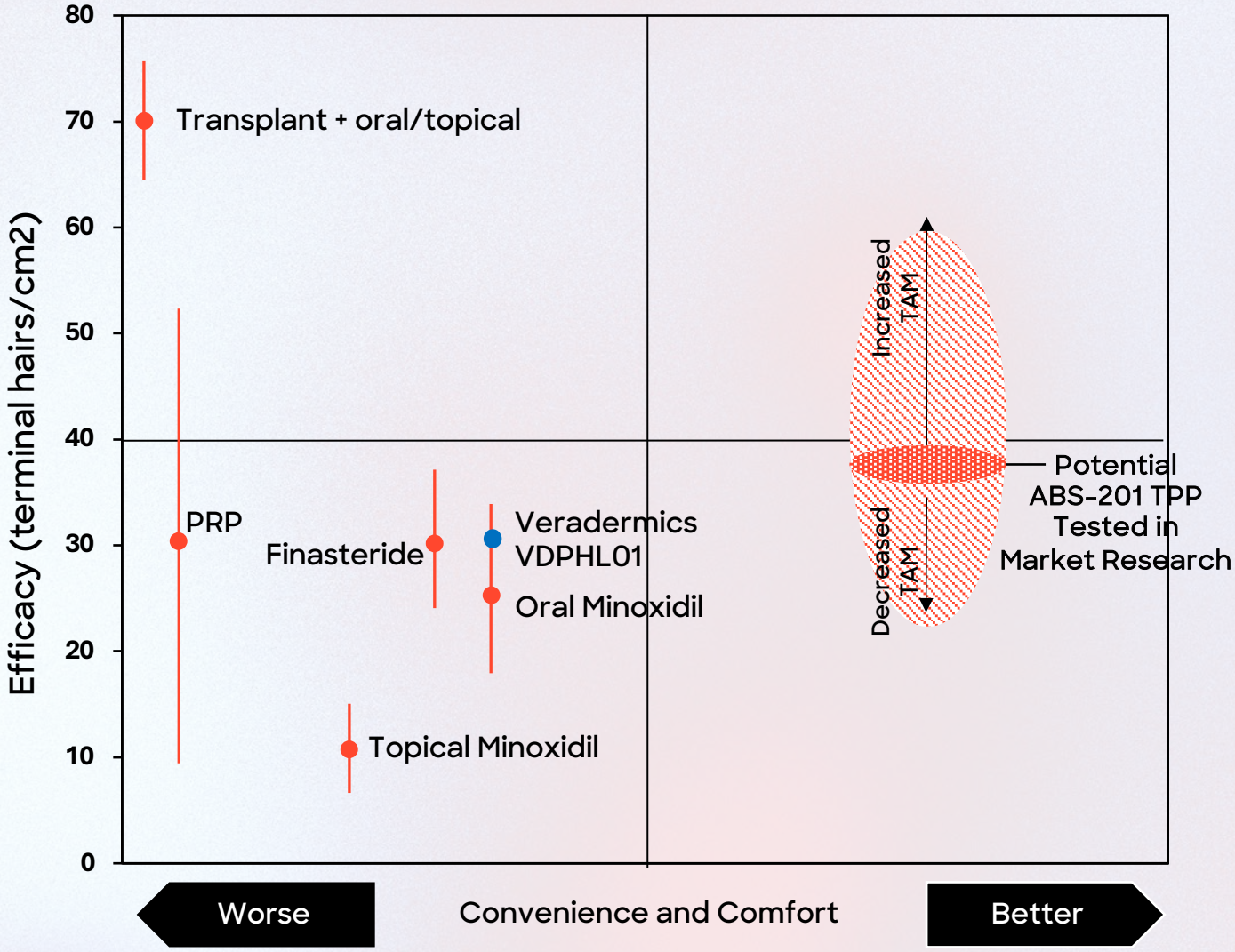
Multiple Ascending Dose (26 weeks)

Cohort 1	Cohort 2	Cohort 3
300mg SC n=49	**600mg SC n=49**	**1200mg SC n=49**

- MAD design enabling **PoC for AGA**
- **MAD Cohort 1 enrolling**
- **2H 2026:** Expected 13-week interim PoC readout
- **Early 2027:** Expected 26-week topline PoC readout

ABS-201 TPP aims to offer a new treatment category in AGA based on efficacy and convenience

- Novel, targeted regenerative hair follicle mechanism
- Convenient, infrequent pulse therapy: 2-3 subcutaneous injections over six-month period
- Potential for durable efficacy: may provide 2-3 years of hair growth
- TPP tested in market research supports total addressable market >$25B



* Based on 2-3 injections during first 6 months for >2 years of hair growth
Efficacy at 24w for Vertex terminal hair count in male subjects: Oral Minoxidil (5mg/day): Panchaprateep 2020 (10.1007/s13555-020-00448-x) and Penha 2024 (doi:10.1001/jamadermatol.2024.0284); PRP: Dervishi 2019 (10.1111/jocd.13113); Finasteride and Topical Minoxidil: : Gupta 2022 (doi:10.1001/jamadermatol.2021.5743), Transplant: based on KOL interviews.

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Consumer Research Commissioned by Absci Validates Market Potential of ABS-201

Significant Unmet Need:
Driven by psycho-social impacts (loss of confidence, self-esteem) from AGA

Strong Commercial Demand:
Nearly all men and roughly 90% of women are inclined to ask their doctors about ABS-201

High Value Proposition:
Significant share of respondents willing to pay a premium for the ABS-201 TPP

Disruptive Potential:
Over 1/3 of respondents would select ABS-201 before their current treatment, suggesting ABS-201 can effectively compete as first-line therapy

610 Participants:

306 Men | 304 Women

*ALL PARTICIPANTS EXPERIENCING HAIR LOSS

UP TO 97% MEN	UP TO 88% WOMEN	EXTREMELY OR VERY LIKELY TO ASK HCP ABOUT ABS-201
37% MEN	36% WOMEN	WOULD TRY ABS-201 FIRST (FIRST LINE)
80% MEN	81% WOMEN	REPORT NEGATIVE PSYCHOLOGICAL IMPACT

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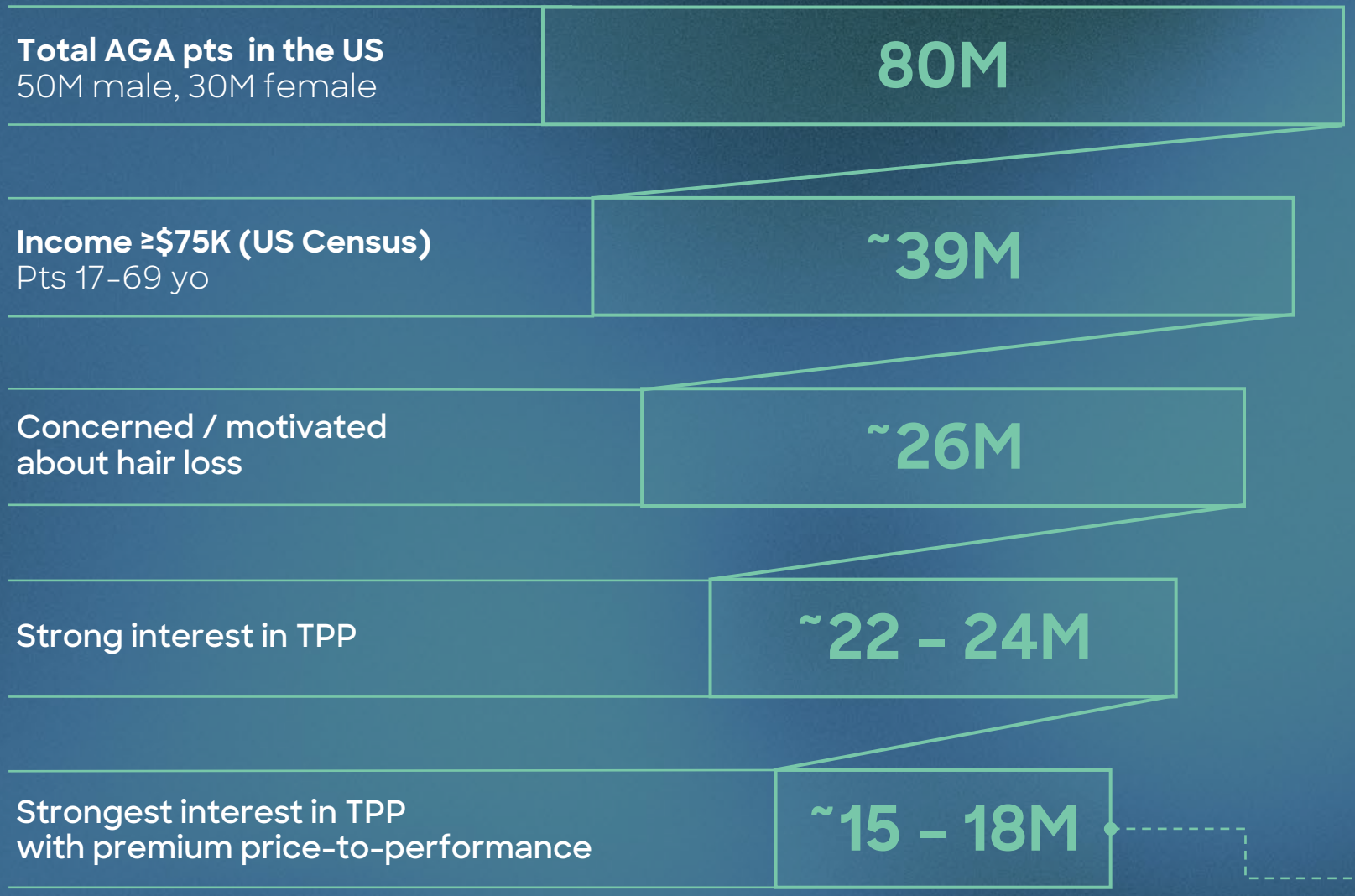

Patient Funnel

>$25B

ESTIMATED U.S. TAM

>$40B

POTENTIAL GLOBAL TAM

5-9M Pts Treated/Year
Assuming 2-3 Year Durability

Development of ABS-201 in Endometriosis

1. Addresses Long-standing Unmet Medical Need and Poor standard of care

2. Strong Biological And Clinical Rationale: Including POC for PRLR mechanism in humans

3. Large, untapped market offers significant upside potential

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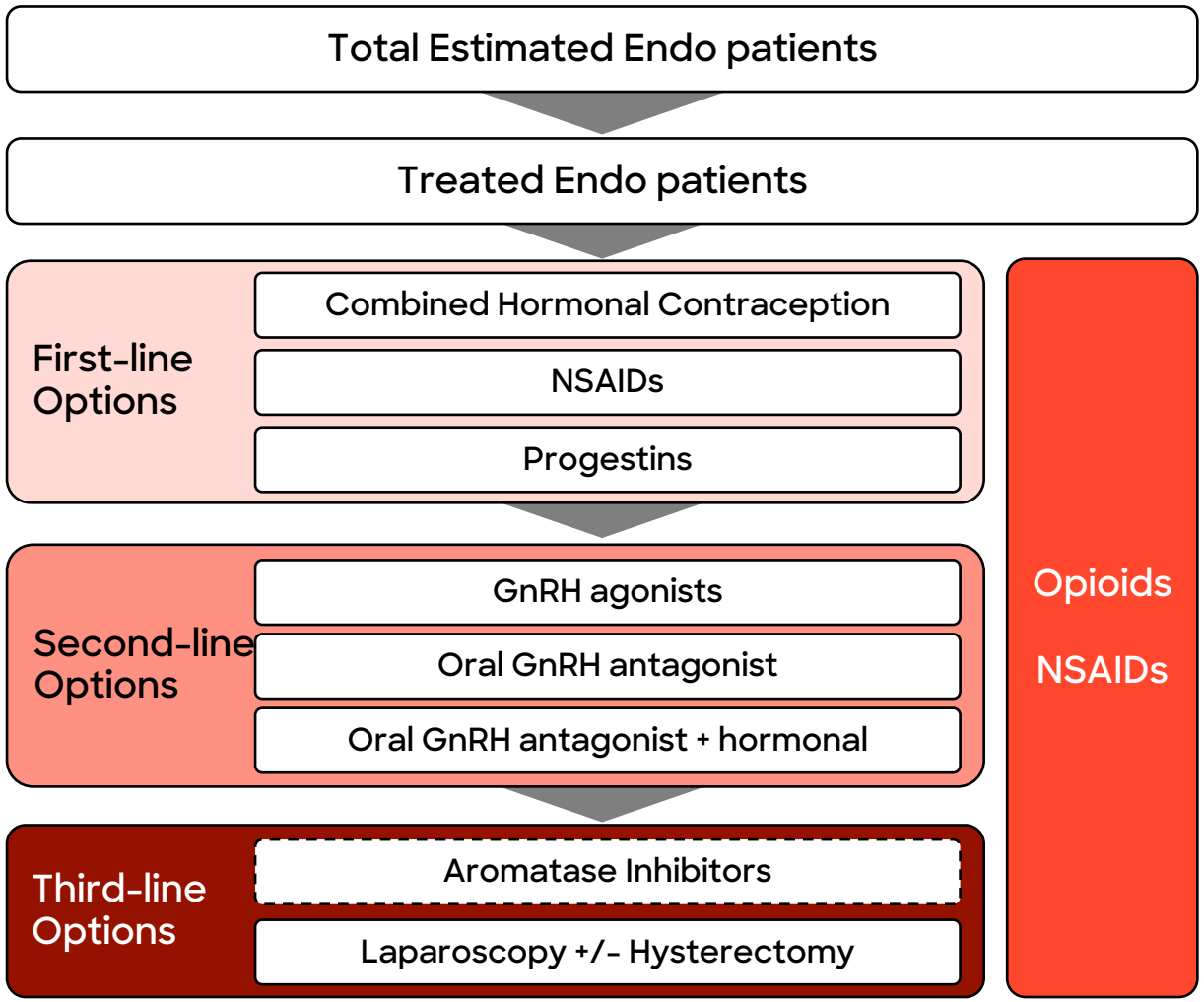
Hormonal therapies and surgical intervention make up the treatment paradigm for Endo

Current Treatment Paradigm (US)



- Endo is a chronic condition with currently no medical or surgical cure
- Roughly, 75% of patients are estimated to use opioids and/or NSIADs throughout their disease course
- Up to 33% of patients do not respond to hormonal treatment alone
  - Additionally, patients will pause treatment when seeking pregnancy
- GnRH therapies are typically prescribed by Gynecologist and often require formal Dx (surgical confirmation)
  - Due in part to higher cost, and AE profile which limit long-term use
- Notably, aromatase inhibitors are not FDA approved for Endo, but are used off-label
- Up to 40% of Endo patients undergo a laparoscopy and 12% receive hysterectomies
- Even after hysterectomy ~15% of patients still report pain symptoms

Sources: PMID 40323608, PMID 37391793, ARTEMIS 2024 Report, GlobalData, US Census Data

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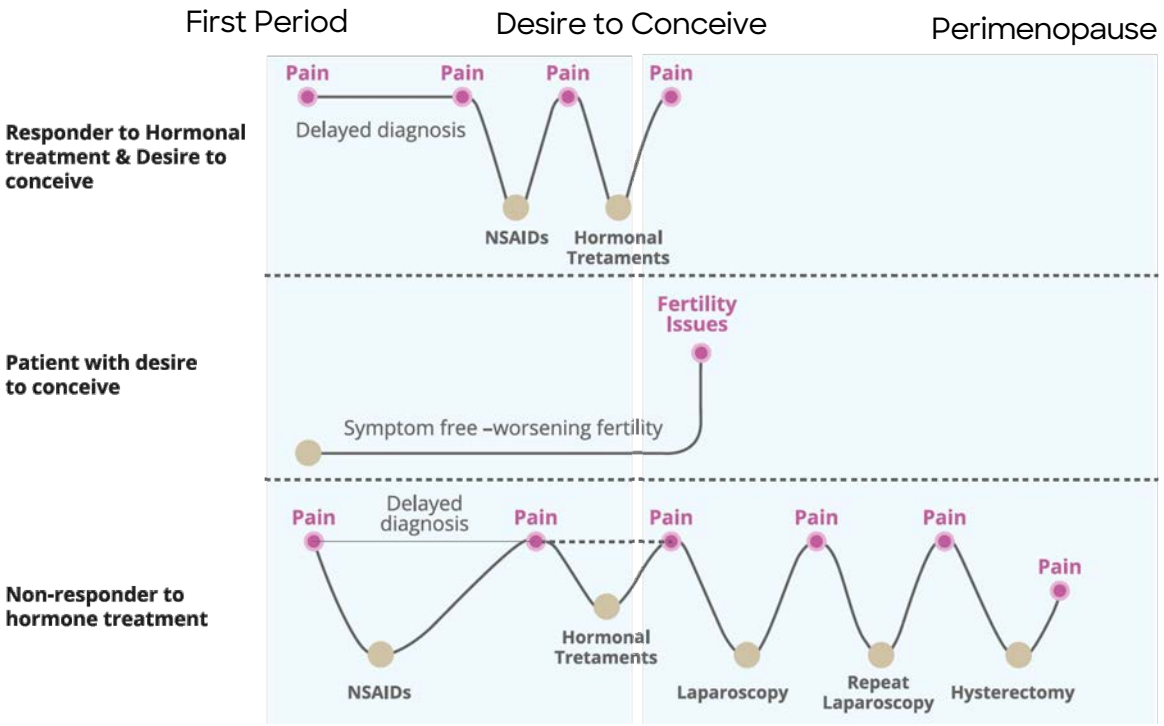
Pain remains a persistent, chronic issue for women with endometriosis

Illustrative Endometrial Patient Journeys



PMID 40323608, PMID 17498711, ARTEMIS 2024 Report

Patients with Endo report ineffective pain management as a number one unmet need

Additionally, patients are seeking the ability to have children

- The condition itself carries a higher risk for infertility
- Current therapeutic interventions prevent pregnancy or mimic a post-menopausal state

There has been little advancement in novel targets for endometriosis

- Contraceptive hormonal therapy has remained unchanged for decades
- GnRH therapy, while effective for some needs to be stopped after 2 years due to AE risks (e.g., loss in bone density)

Endo remains underdiagnosed, which is predicted to improve with a disease-modifying therapy

- Mean age of symptom onset is typically early 20s, while mean age of diagnosis is typically mid-30s

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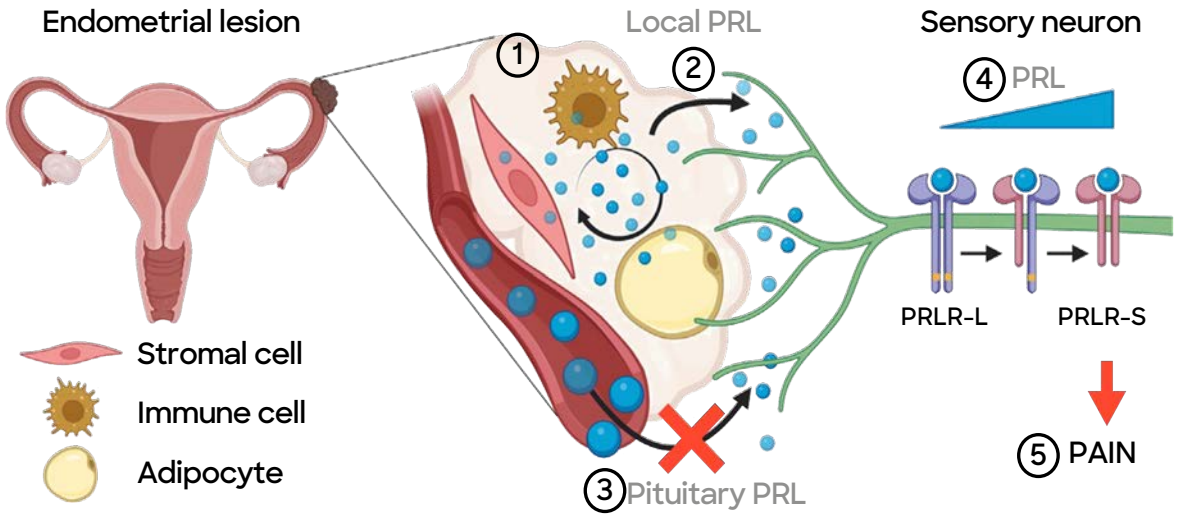
PRLR antagonism is a novel and differentiated MoA in Endometriosis

PRL and PRLR play a dual role in endometrial lesion development and pain response



- Endometriotic lesions produce prolactin under estrogen/progesterone control.
- Excess prolactin promotes lesion growth and sensitizes pain-sensing nerves, contributing to chronic pelvic pain.
- Prolactin signaling is independent of sex-hormone pathways, offering a differentiated, non-hormonal treatment modality vs current therapies.

Sources: PMID 37169264

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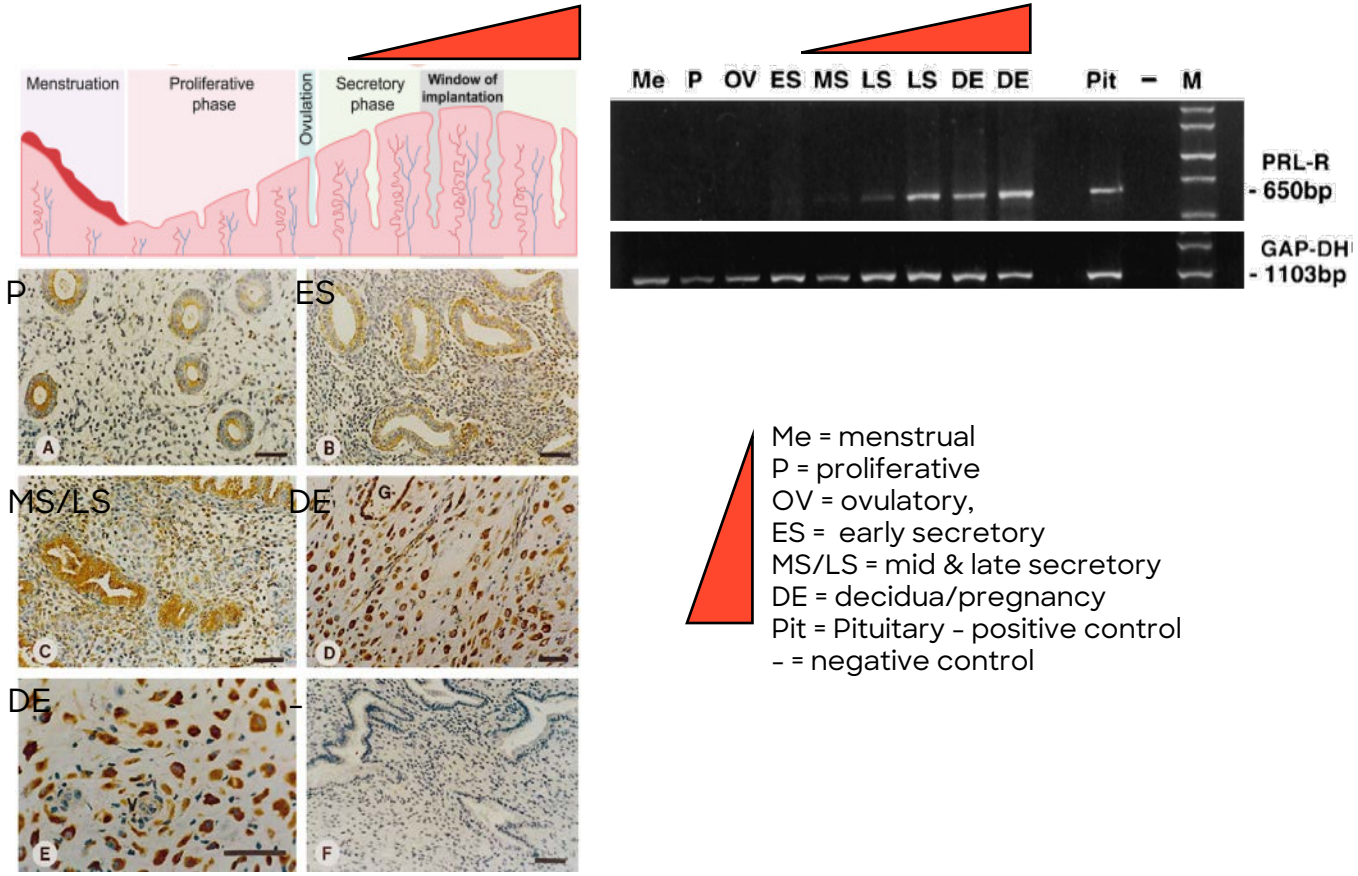
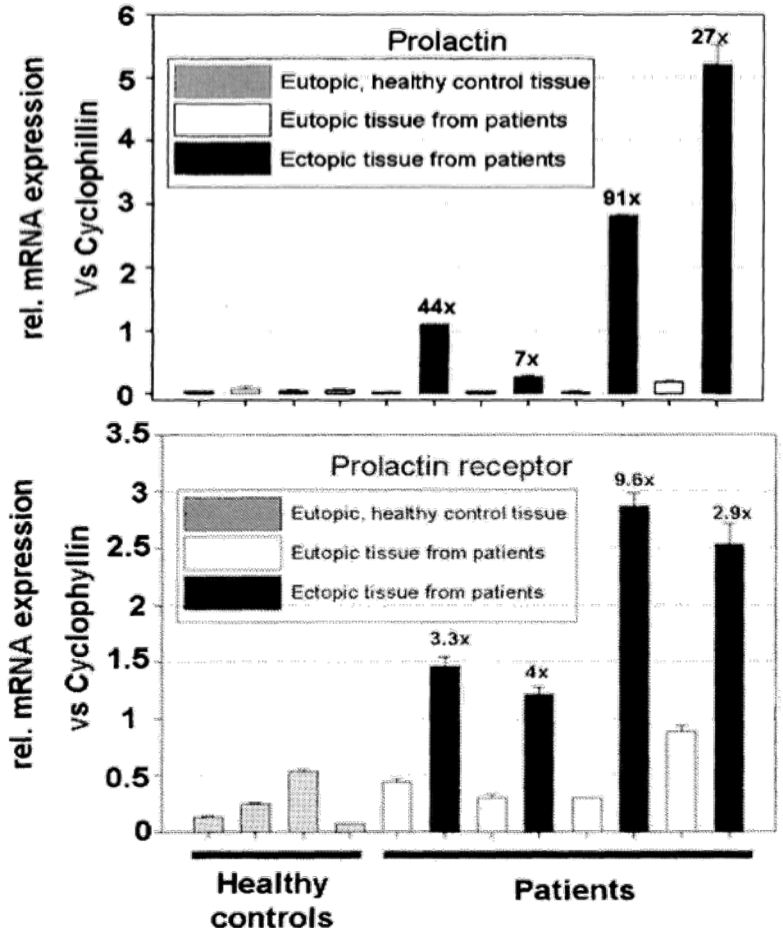
PRL and PRLR increase during secretory phase in healthy tissue, and is overexpressed in endometrium of patients with endometriosis

Localization And Temporal Expression Of Prolactin Receptor In Human Endometrium



PRL & PRLR is Elevated Ectopic Endometriotic Lesions



Jones et al. Journal of Clinical Endocrinology and Metabolism, 1998; Otto et al. WO 2011/069795 A4

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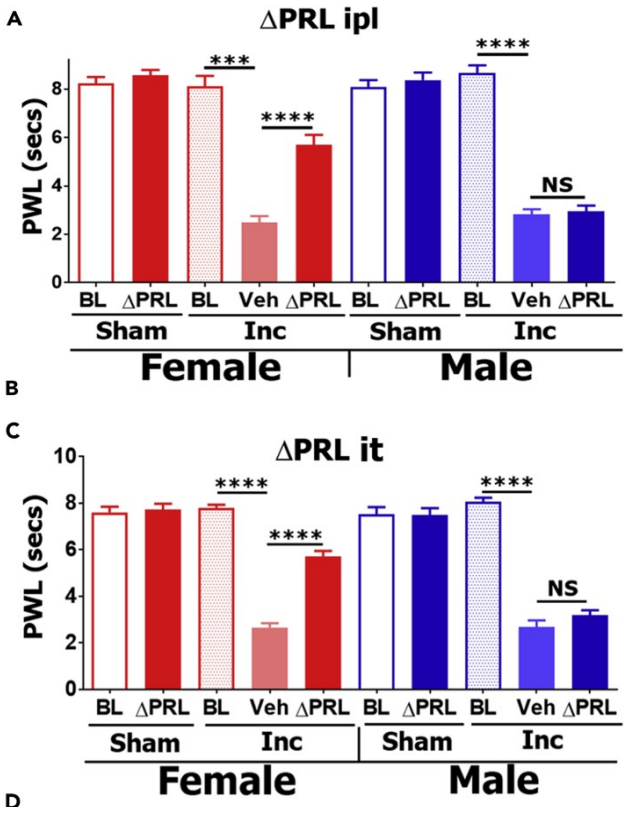
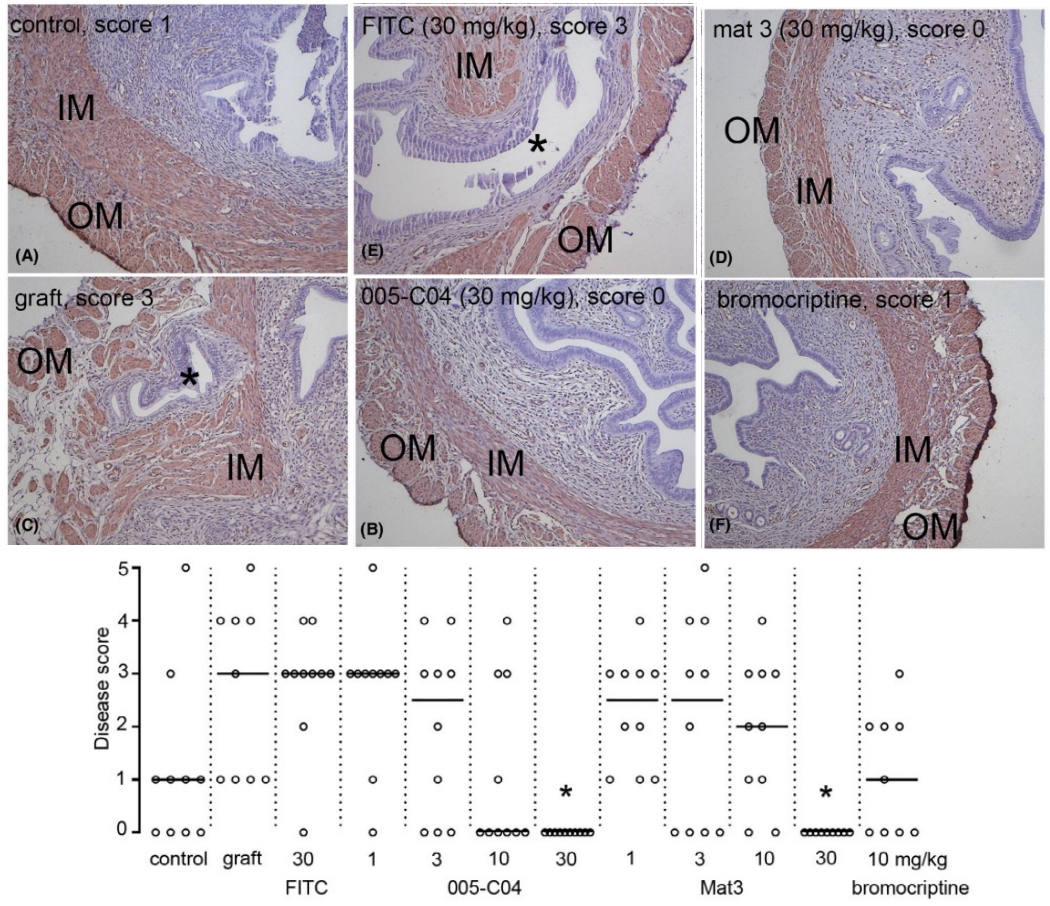
PRLR antagonism suppresses postoperative pain in female mice and inhibits endometriosis interna formation

Prolactin Regulates Pain Responses via a Female-Selective Nociceptor-Specific Mechanism



Depicted: pain incision (Inc) model for heat sensitivity & ΔPRL administration

The Effects of Prolactin Receptor Blockade in a Murine Endometriosis Interna Model



Patil et al. iScience 2019; Otto et al. Pharmacol Res Perspect. 2022

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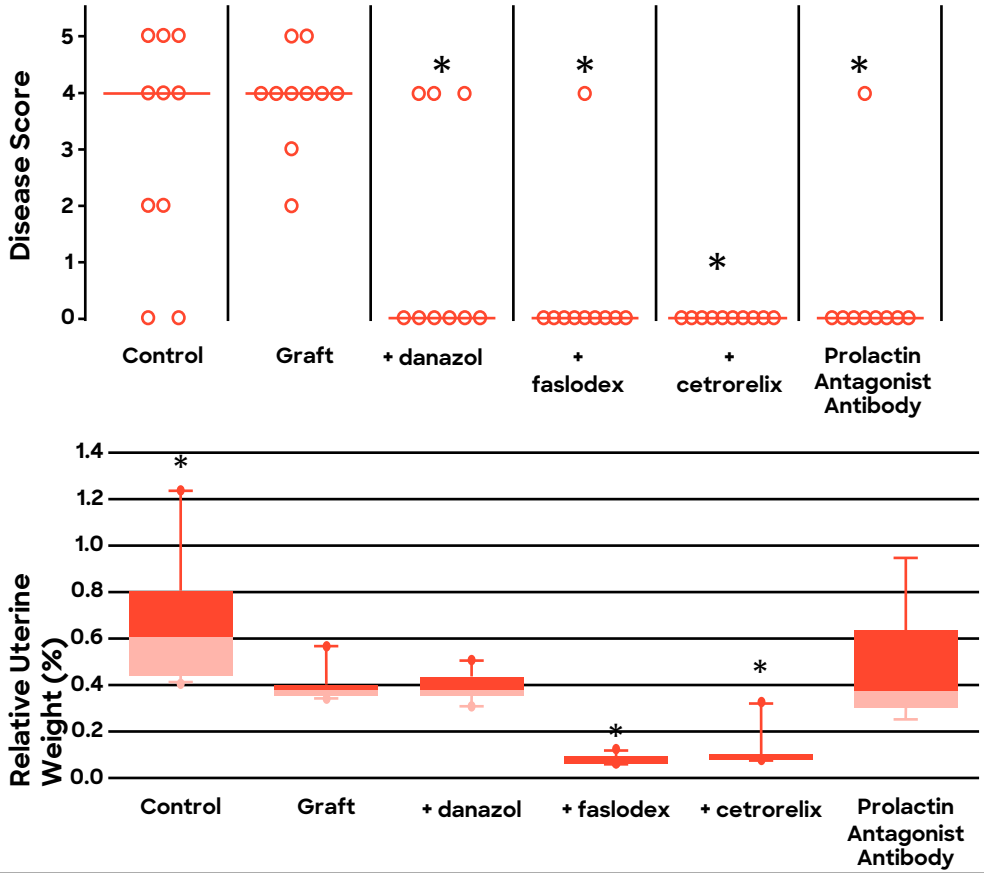
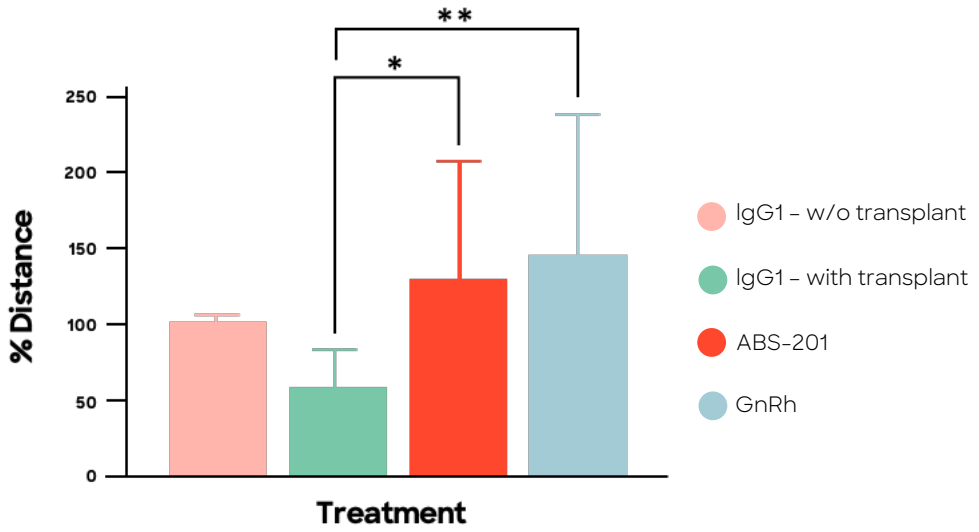
PRLR antagonism reduces lesion formation and pain in endometriosis mouse model

Prolactin inhibition decreases endometrial lesion formation in female mouse interna



*p < .05

% Distance travelled at Week 7 (compared to baseline)



- ABS-201 and GnRh modulator increase distance traveled relative to placebo over time as surrogate for pain reduction

** p<0.01; *** p<0.001

Sources: Patil et al. iScience 2019
Otto et al. Pharmacol Res Perspect. 2022

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ABS-201: a potentially differentiated profile targeting a large underserved market opportunity

NOVEL TREATMENT OPTION FOR ~9M PATIENTS IN THE U.S. ALONE WITH ENDOMETRIOSIS

- **Novel Mechanism:** Non-sex-steroid (peptide) hormone
- **Potential for Improved Safety Profile:** Potential improved AE profile & longer use than GnRH
- **Dual Action**: Potential on both pain and lesion growth
- **Best-in-class Potential**: Superior developability and expected half-life
- **Disease Modifying:** Potential to treat cause
- **Clinically validated:** through HMI-115 Ph2 study

Potential to generate

>$4.5B

at peak sales

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Leading AI x Bio platform driving 2 Phase 2 readouts in the next 24 months

ABS-201 in AGA

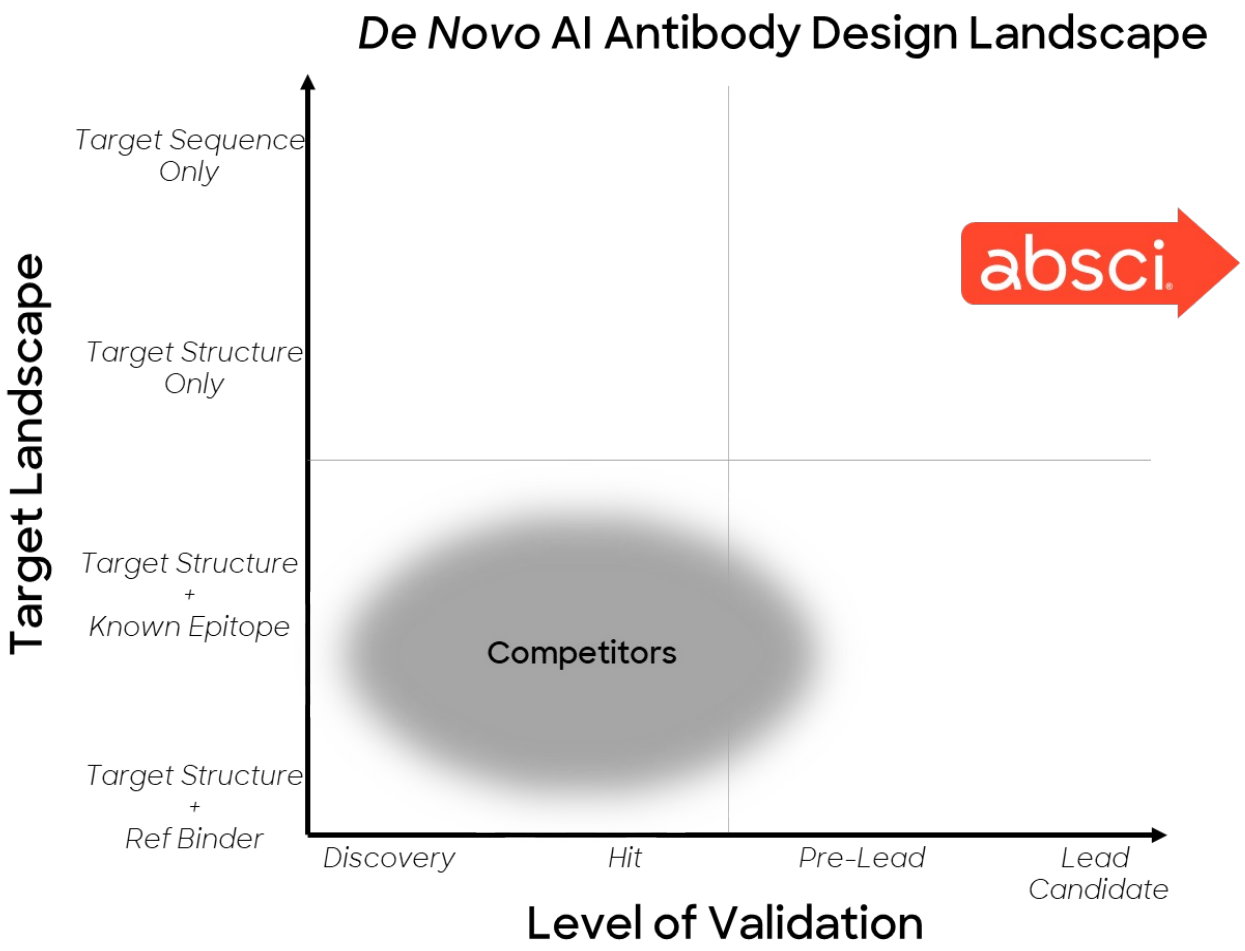
- Ph1/2a Study initiated Dec 2025
- Safety, Tolerability, and PK readout expected 1H 2026
- Interim PoC Readout – anticipated 2H 2026

ABS-201 in ENDO

- Ph1/2a Study initiated Dec 2025
- Phase 2 initiation expected in Q4 2026

Powered by Absci's Leading AI Platform

Absci's de novo AI models deliver differentiated lead candidates against challenging targets



ABSCI DIFFERENTIATION

- **Address challenging targets**
  - *Only target structure or sequence required*
- ***Zero-Prior*: Design against any epitope**
  - *No known protein binder required*
  - *Interrogate multiple epitopes to achieve function (e.g. agonism)*
- **Deliver mAbs that meet therapeutic criteria***
  - *Specificity*
  - *Developability*
  - *Function*

*May include one week of AI lead optimization

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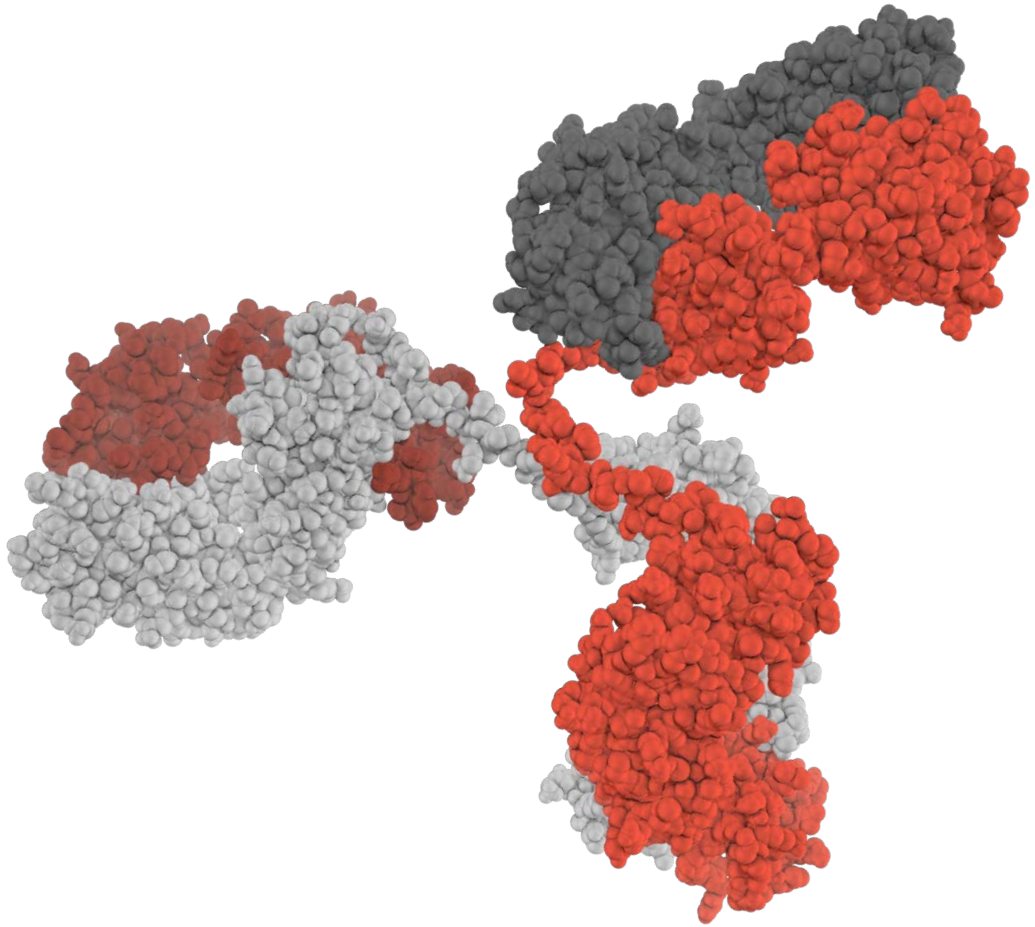
We use AI to create novel & differentiated therapeutics



- EPITOPE-SPECIFIC DESIGN + EPITOPE INTERFACE OPTIMIZATION
- ENHANCED POTENCY AND MOA
- ABILITY TO ADDRESS DIFFICULT TARGET CLASSES, E.G. GPCRS
- ENABLING FEATURES: MULTI-VALENCY, pH-DEPENDENT BINDING
- POTENTIAL TO CREATE MEANINGFUL IP: 100S TO 10,000S OF FUNCTIONALLY VALIDATED SEQUENCES ENABLED BY PROPRIETARY WET-LAB VALIDATION

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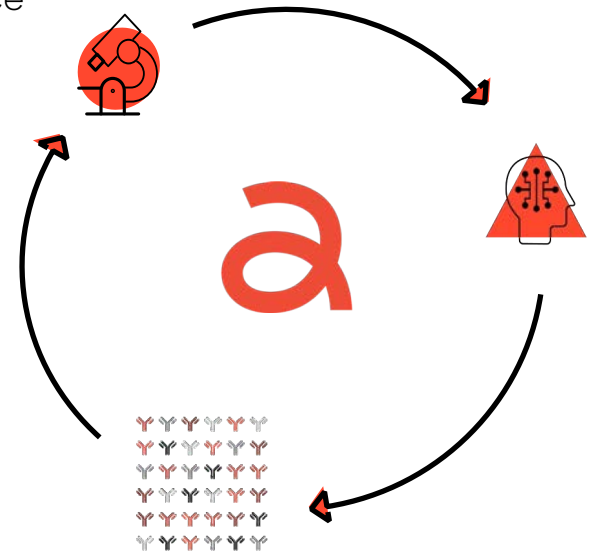
We create experimentally validated AI technology that enables *de novo* antibody design

Wet Lab Validation

Wet Lab experiments confirm binding, epitope-specificity, developability, and function.

Wet Lab data enable assessment of model performance improvements.



Antibody Design (AbsciDesign)

(1) Generate antibody structures and sequences.

(2) Filter designs toward high-probability *in vitro* binders.

Library Design

AbsciDesign generates “libraries” of sequences that encode putative antibody binders per disease target.

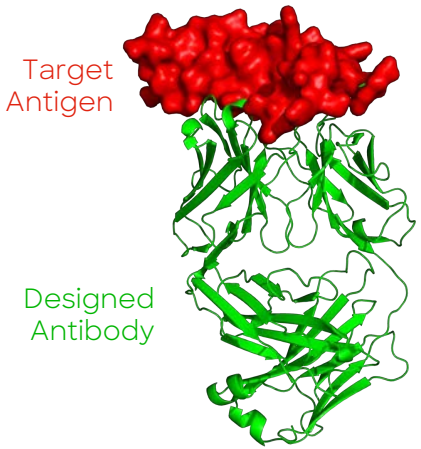
Origin AI models design and optimize therapeutic antibodies

INPUT

1. Target structure(s)
2. Epitope(s)
3. Antibody framework(s)
4. CDR lengths

STRUCTURE & SEQUENCE DESIGN

Structure Design



Sequence Design

Design 1

HCDR1: GFNIKDTY
HCDR2: IYPTNGYT
HCDR3: SRWGGDGFYAMDY

LCDR1: QDVNTA
LCDR2: SAS
LCDR3: QQHYTTPPT

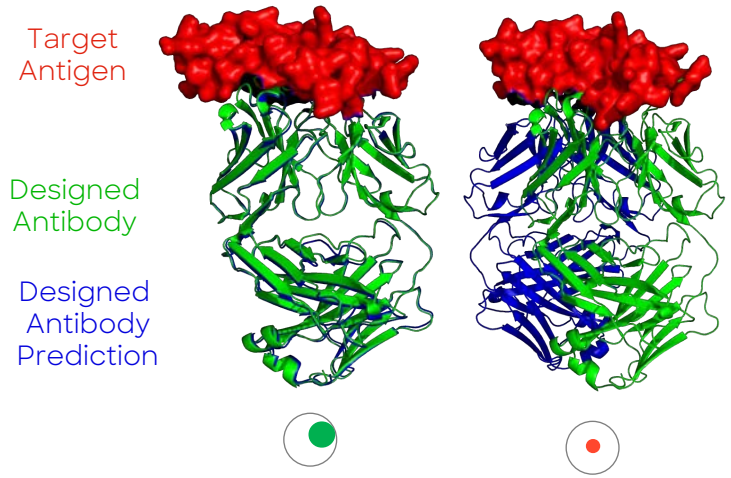
⋮

Design N

HCDR1: GFNIKDTW
HCDR2: IYPSNGYT
HCDR3: ARWGGDGFYAMDY

LCDR1: QDVNTA
LCDR2: SAS
LCDR3: QQHYTTPPT

DESIGN SCORING & FILTERING



- Score, rank, and filter designs to optimize for diversity and binding likelihood
- Leverage quality confidence metrics, energy metrics, and molecular dynamics simulations to evaluate designs

OUTPUT LIBRARY

DESIGN LIBRARY

1. DESIGN 1
2. DESIGN 2
3. DESIGN 3

.
.
.

N. DESIGN N

Output: library of amino acid sequences encoding antibody binders to therapeutic target-of-interest

CDR = Complementarity Determining Region H = Heavy Chain; L = Light Chain

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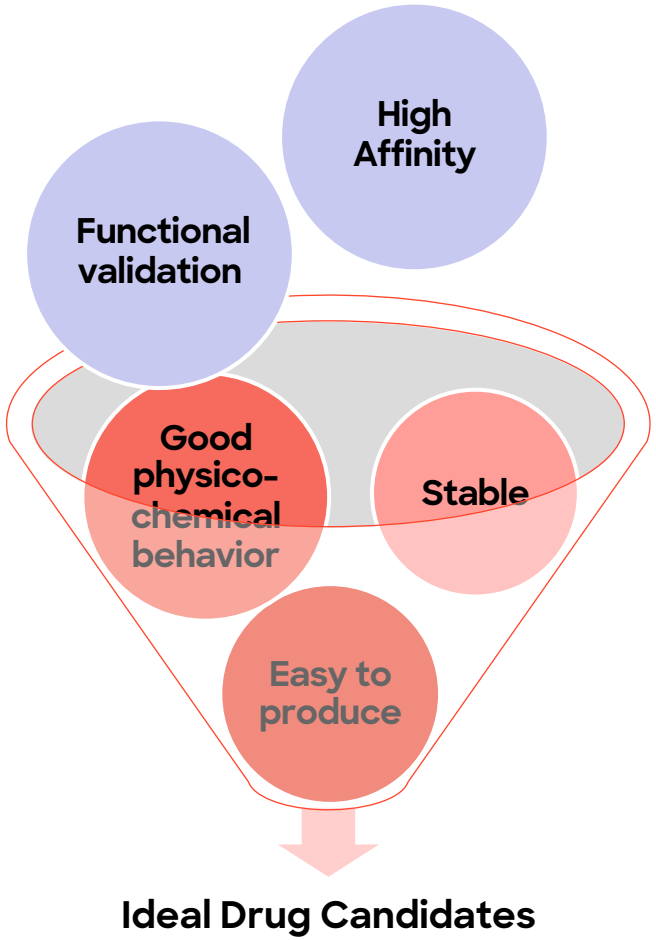
Lab-in-the-loop ensures AI-designed antibodies translate into drug-ready candidates



- **Screening** team confirms binding to target and affinity
- **Disease Biology** team validates functional activity
- **Analytical Development** team conducts developability assessment:
  - No self-association, hydrophobicity, or poly-reactivity
  - Appropriate melting temperature and colloidal profile, and stable upon stress conditions
- **Production team** evaluates manufacturability in CHO cells

Introducing Origin-1: an AI platform for *de novo* antibody design against zero-prior epitopes

Zero-Prior Epitope Targeting

Designed full-length mAbs against epitopes with no known protein binders or structural data in <100 designs per target

High Structural Fidelity

Cryo-EM confirmed designs at 3.0–3.1 Å resolution with DockQ 0.73–0.83, confirming high structure design accuracy

Functional Antagonist

AI-guided affinity maturation yielded 68x affinity gain for IL36RA, producing a functional antagonist at ~100 nM EC50

Origin Pipeline Components:

AbsciDiff
All-atom diffusion model

→

AbsciGen
CDR sequence design

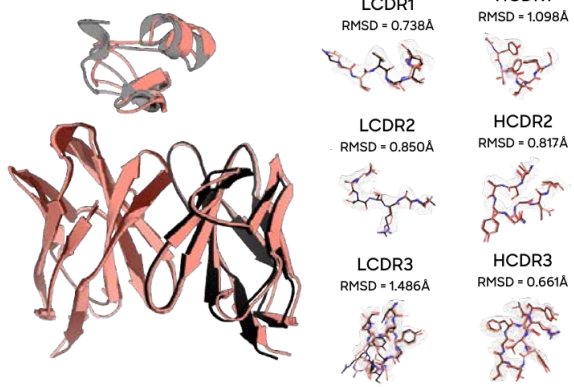
→

AbsciBind
Scoring & filtering

COL6A3

Experimental Structure
Designed Heavy Chain
Designed Light Chain
Designed Antigen

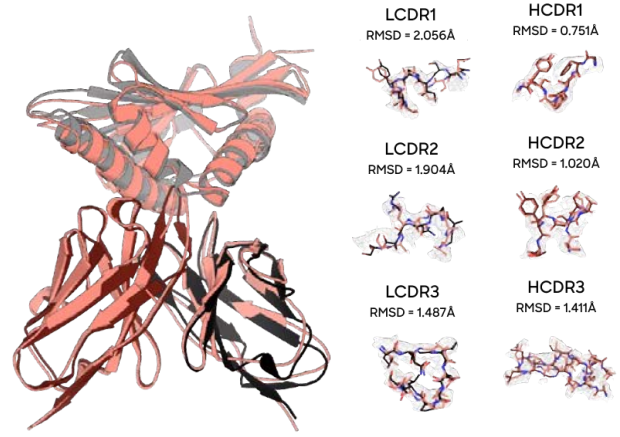
All-Atom Global RMSD = 2.56Å
Interface RMSD = 0.95Å
Ligand RMSD = 1.58Å
DockQ = 0.84Å



AZGP1

Experimental Structure
Designed Heavy Chain
Designed Light Chain
Designed Antigen

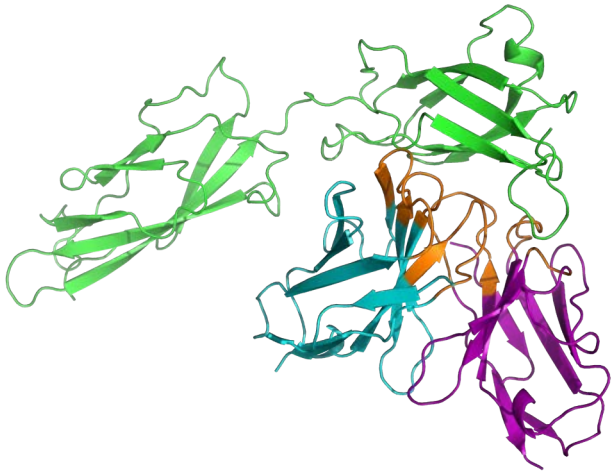
All-Atom Global RMSD = 1.79Å
Interface RMSD = 0.96Å
Ligand RMSD = 1.48Å
DockQ = 0.83



https://www.absci.com/denovo/

Absci's de novo AI models deliver differentiated lead candidates against challenging targets

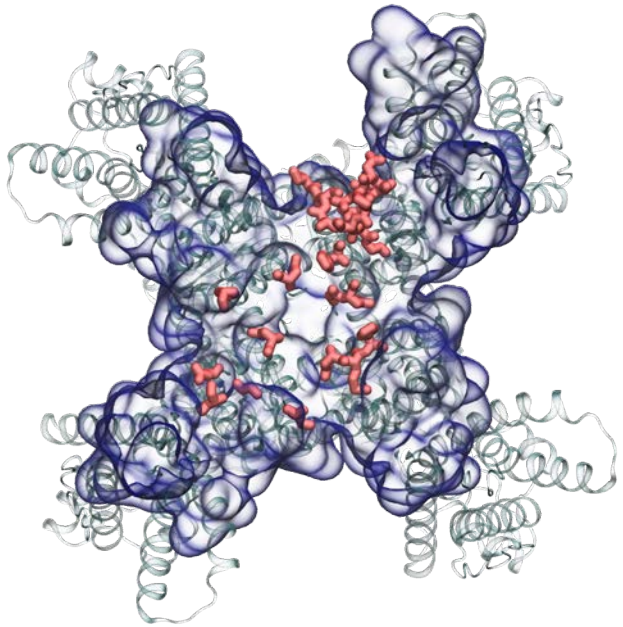
DE NOVO ANTIBODY DESIGN AGAINST TRANSMEMBRANE TARGET EPITOPE WITH NO KNOWN BINDER



Designed seven high-affinity antibodies against partner-specified epitopes on a transmembrane antigen without a known binder.

Pharma collaboration

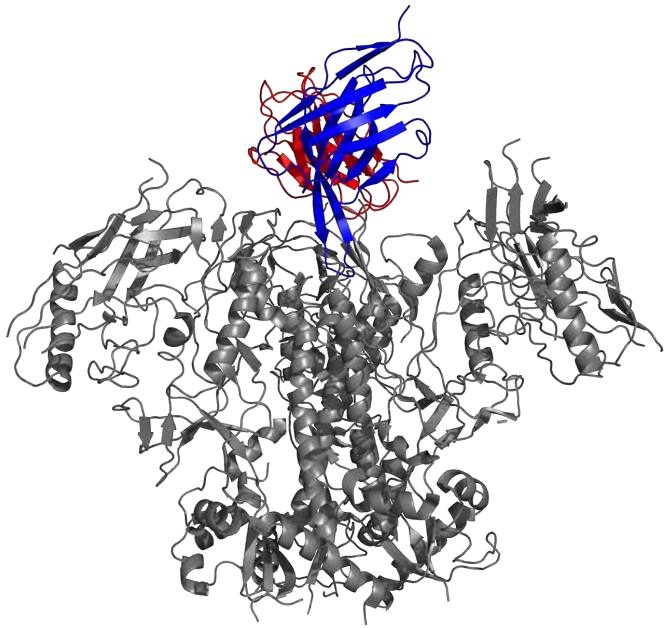
DE NOVO ANTIBODY DESIGN AGAINST CHALLENGING ION CHANNEL



Designed a pore-blocking, functional antagonist against a tetrameric membrane-embedded ion channel.

Pharma collaboration

DE NOVO ANTIBODY DESIGN AGAINST CONSERVED HIV-1 "CALDERA" EPITOPE



Designed cross-reactive, conformation-specific antibodies against the HIV-1 "Caldera" epitope.

Caltech collaboration

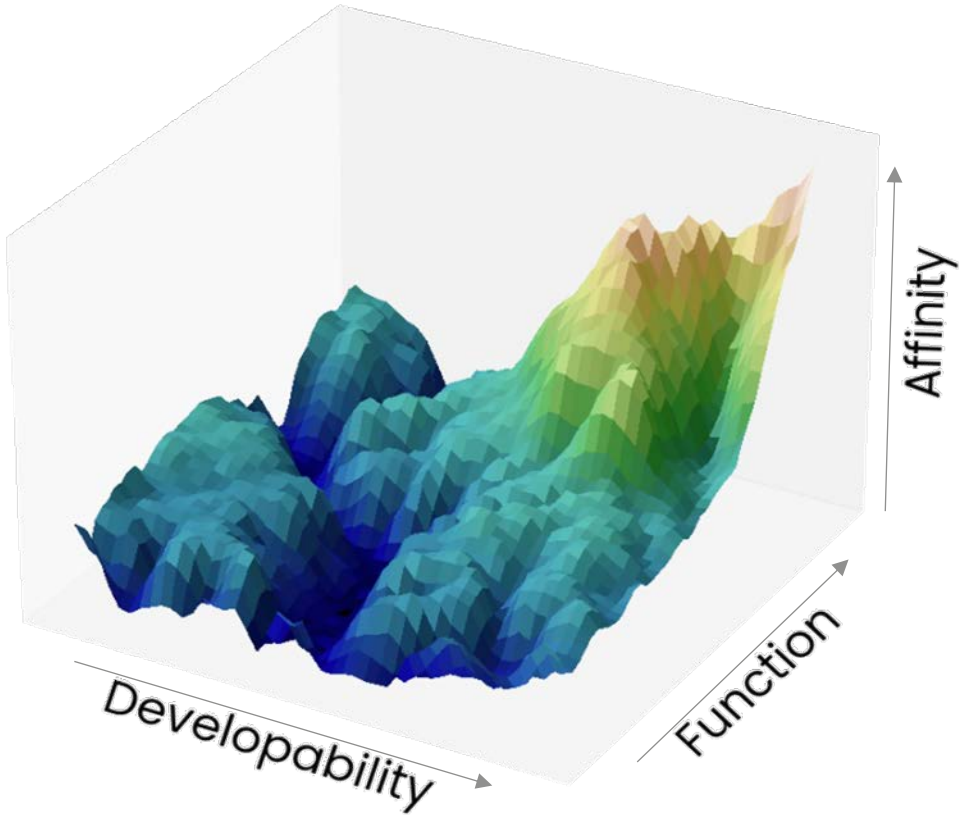
We use high-fidelity, customized datasets with our own AI models to enrich for developable candidates

Generates **diverse**, **developable**, and **functional novel variants** within a desired target product profile (TPP):

- **Precise affinity tuning** for bi-specific arms
- **Cross-reactive** leads to support *in vivo* testing
- **Conditional** leads for optimal pharmacology

Lab-in-the-loop synergy provides strong model performance out to >10^{18} combinatorial space*

Landscape-wide scoring enables selection of optimal sets of sequences



*derived from ≥10 amino acid changes at ≥24 CDR positions sampling all residues except cysteine

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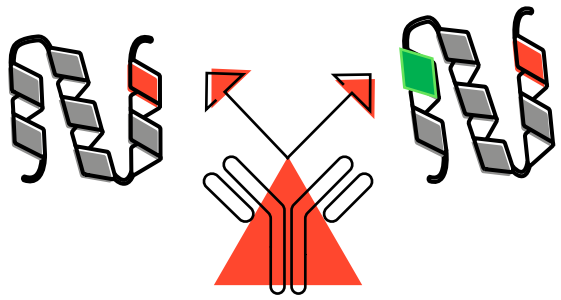
Success in AI-design and optimization of multiple developability and pharmacological properties

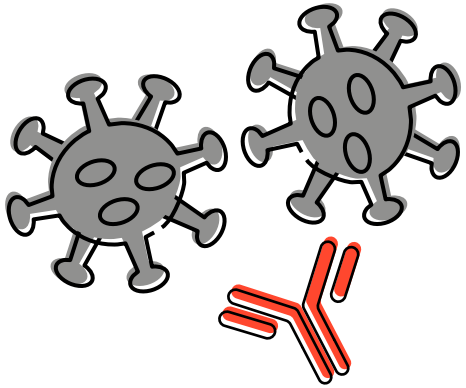
CROSS-SPECIES OPTIMIZATION



Successful design of antibodies binding to both mouse and human antigens

- Hits identified from 10^{19} combinatorial space
- Models identify hits with >175x tighter affinity and <500 pM KD to both antigens

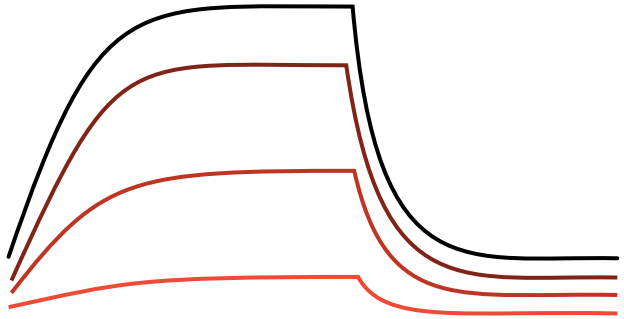
MULTI-VARIANT SPECIFICITY



Successful design of antibodies with expanded neutralizing activity vs three SARS-CoV-2 spike variants

- Tuned models identify developable hits with higher affinity to three variants, including >50x tighter affinity to previously resistant variant
- Potent neutralization activity to all three variants

PH-SENSITIVE BINDING



Successful design of pH-sensitive antibodies through sampling the entire relevant ionizable search space

- Hits show 20x to >100x pH sensitivity with favorable developability after one round

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Track record of industry-leading partnerships

AI DRUG CREATION™ PARTNERSHIPS

AstraZeneca

almirall

MERCK

TWIST BIOSCIENCE

OWKIN

Memorial Sloan Kettering Cancer Center

Caltech

UCLA

SUPPORTING COMPUTE COLLABORATIONS

AMD

ORACLE

NVIDIA

25+ PARTNERED PROGRAMS TO DATE

OUR PARTNERSHIP FOCUS

- Challenging Targets / Epitopes
- Differentiated TPPs
- Mono or Multi-specific Formats

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”Multilingual” team with expertise in AI and drug creation

EXPERTISE AND BACKGROUND FROM:

OpenAI · Google · NVIDIA · Harvard University · Stanford University · MIT · Meta · Takeda · X · AstraZeneca · Broad Institute · Bayer · Pfizer · Bristol Myers Squibb · novo nordisk · Philips · Microsoft · amazon

Leadership Team:

Sean McClain
Founder, CEO & Board Director

Zach Jonasson, PhD
Chief Financial Officer & Chief Business Officer

Ransi Somaratne, MD
Chief Medical Officer

Shelby Walker, JD
Chief Legal Officer

Christine Lemke
SVP, Portfolio & Growth Strategy

Board Of Directors:

Frans Van Houten
Chairman of the Board
Former CEO, Royal Phillips

Sean McClain
Founder, CEO & Board Director

Sir Mene Pangalos, PhD
Former EVP R&D
AstraZeneca

Mary Szela
CEO & President
TriSalus Life Sciences

Joseph Sirosh, PhD
Former CVP AI
Microsoft

Dan Rabinovitsj
VP Hardware Engineering, Meta

Karen McGinnis, CPA
Former Chief Accounting Officer, Illumina

Scientific Advisory Board:

Sir Mene Pangalos, PHD
Co-Chair SAB
Former EVP R&D
AstraZeneca

Andreas Busch, PHD
Co-Chair SAB
Chief Innovation Officer

Ian McInnes, PHD
Vice Principal and Head of College
University of Glasgow

Luis Diaz, MD
Head, Division of Solid Tumor Oncology
Memorial Sloan Kettering Cancer Center

John Wherry, PHD
Director, Institute for Immunology & Immune Health, University of Pennsylvania

Victor Greiff, PHD
Associate Professor
University of Oslo

Hubert Truebel, MD, PHD, MBA
Chief Medical Officer
AiCuris

Absci at a Glance

140
EMPLOYEES

"Multi-lingual" AI + Drug Discovery expertise AI team drawing on experience from tech leaders:

Harvard University, Google, NVIDIA, MIT, X, OpenAI, Microsoft Research, Stanford University

Biologics drug discovery expertise from:

AstraZeneca, Pfizer, Takeda, Shire

77,000
SQUARE FEET

- State-of-the-art wet and dry lab in Vancouver WA
- Absci AI Research (AAIR) lab in NYC
- Innovation Centre in Zug Switzerland

10+
PARTNERS, INCLUDING

MERCK, almirall, Memorial Sloan Kettering Cancer Center, TWIST BIOSCIENCE

3
CLINICAL STAGE PROGRAMS

In Androgenetic Alopecia, Endometriosis, and I&I

>$650M
CAPITAL RAISED TO DATE

*As of March 31, 2025

Generative AI Re(Generative) Biology

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AI CASE STUDY I

de novo design of an antibody that binds the Caldera region of HIV-1 trimer

Caltech absci BILL & MELINDA GATES *foundation*

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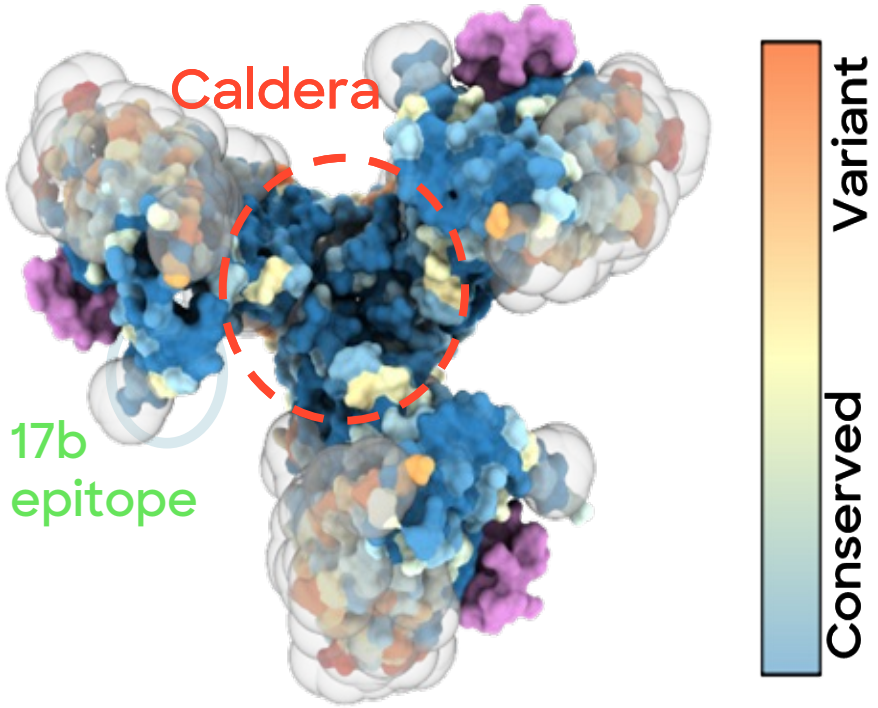
de novo design antibody that binds to the highly conserved caldera region of HIV gp120

- No natural or synthetic antibody for HIV exists today because immune system cannot derive an antibody that is universally neutralizing against HIV
- Design challenge: create universally neutralizing HIV antibody by binding unique and conserved epitope within “caldera” of open conformation of gp120 to prevent HIV from entering host cells
- Numerous attempts to target this epitope have failed-previous efforts have identified antibodies, but none bind the “caldera” and none are universally neutralizing.

HIV gp120 trimer (open)



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HIV-Caldera: Determine inputs and design

HIV Env Trimer Challenge :

- Highly glycosylated
- Extremely high sequence diversity among isolates
- High mutation rate at common neutralizing epitopes

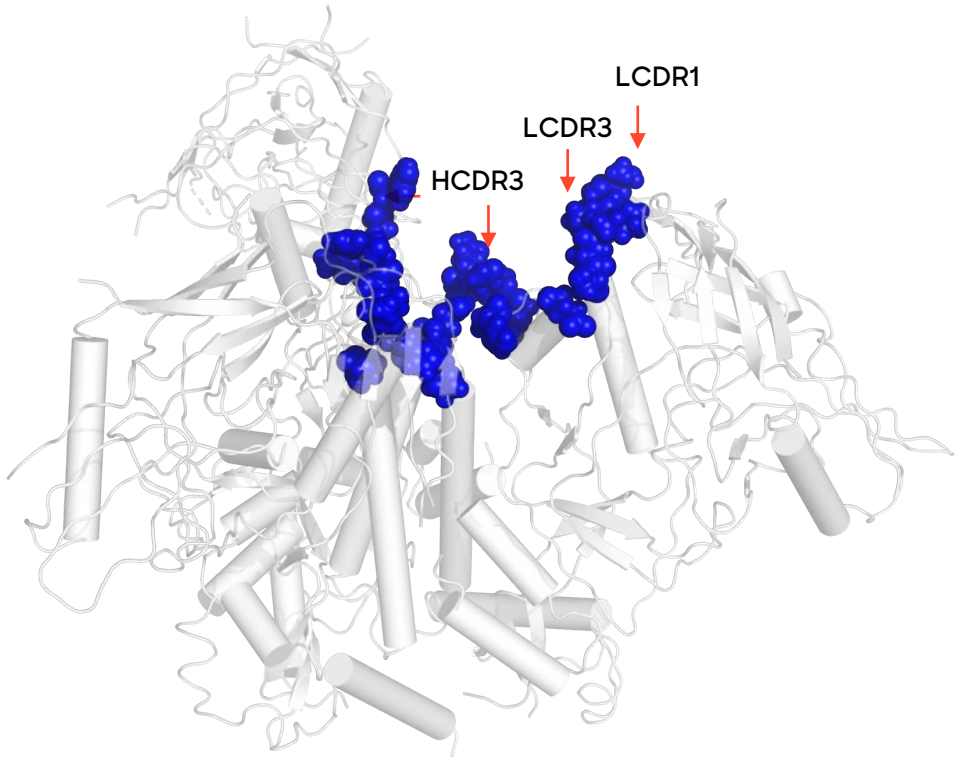
Model inputs:

1. Antigen structure
2. Framework of 17b
3. Epitope selected conserved across HIV strains (Clades A, B, and C)

Design of CDRs:

- Condition the model to design long HCDR3s to reach into open caldera region (>20 residues)
- Designed HCDR2 and LCDR3 to bind to HIV surface

HIV Env trimer (open)



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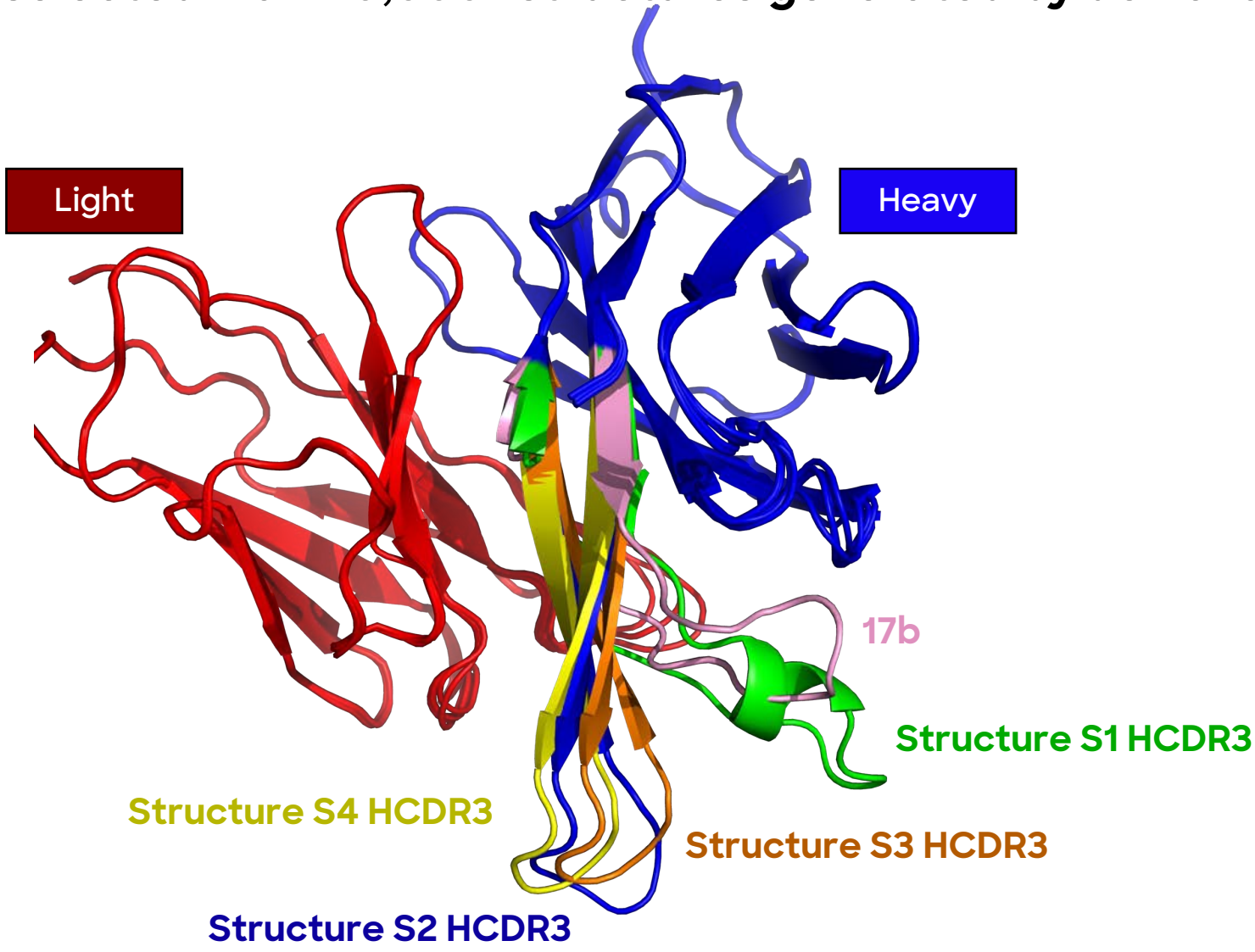
4 best structures selected from 10,000+ structures generated by *de novo* model



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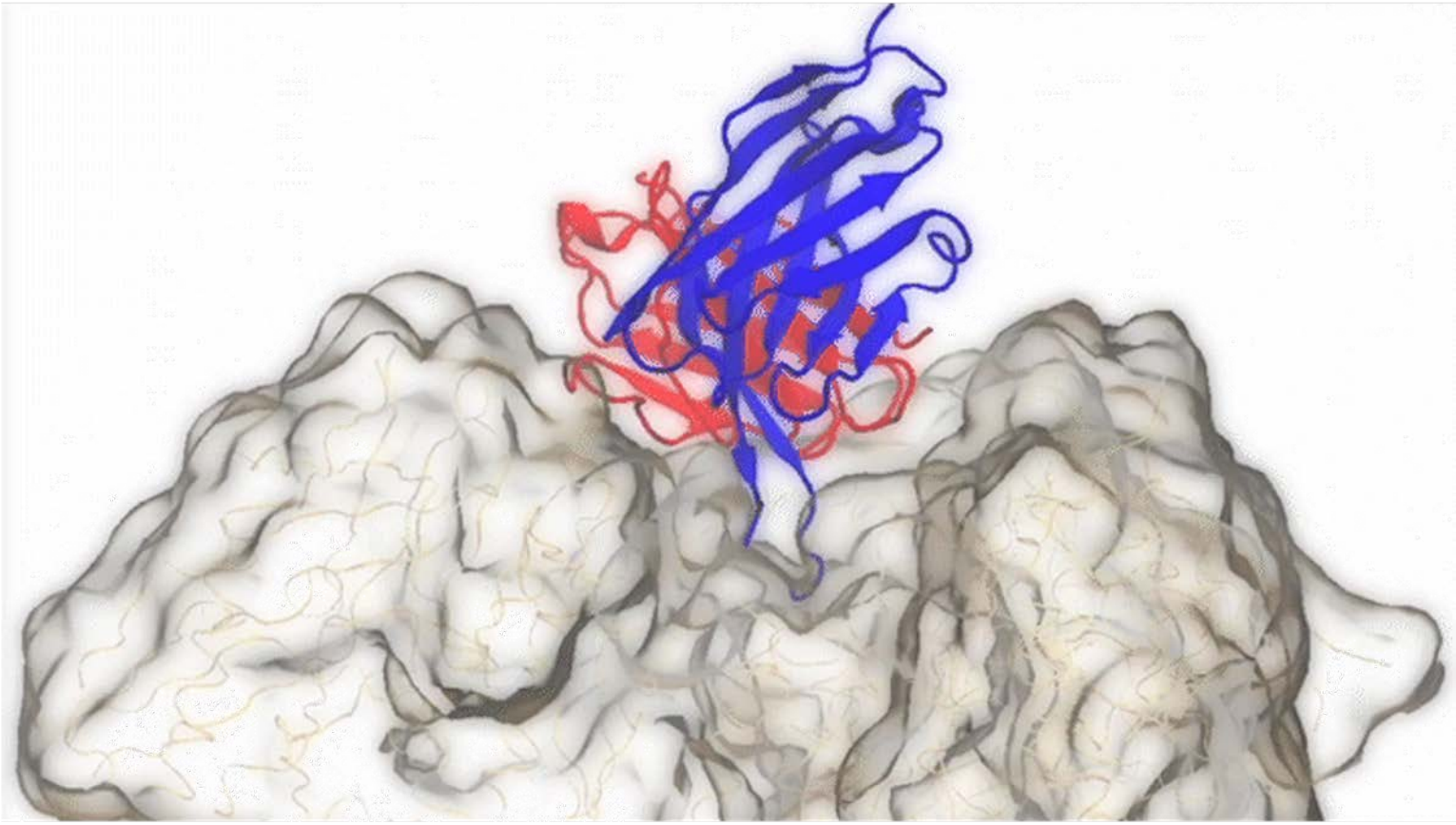
Applied molecular dynamics simulation to de novo designed antibodies



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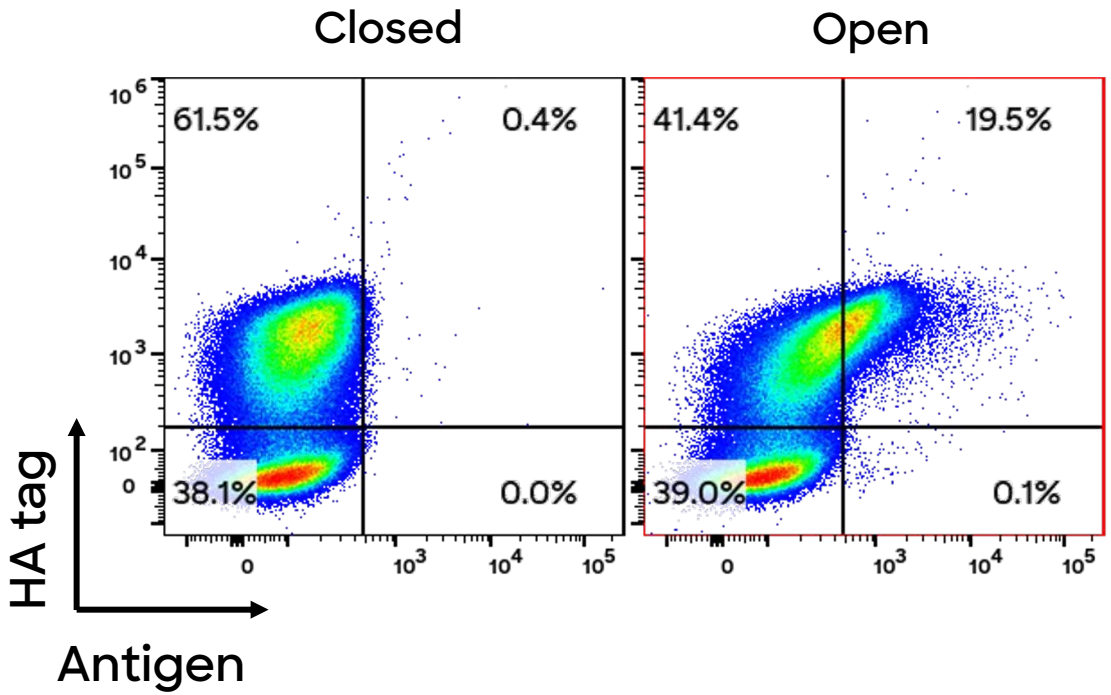
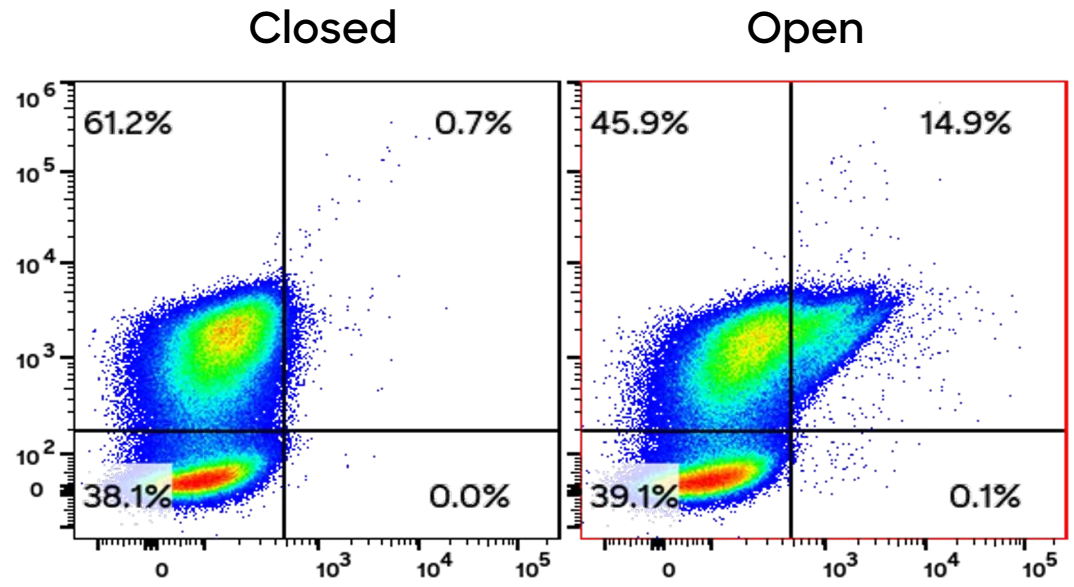
Enriched de novo library binds open, not closed, Env trimer conformation in YSD

Clade A Env trimer



Clade B Env trimer



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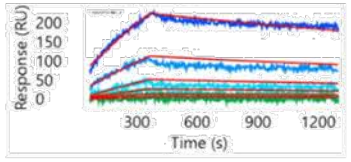
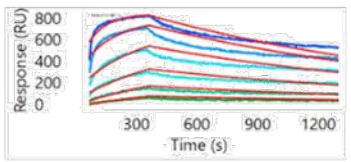
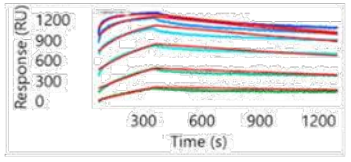
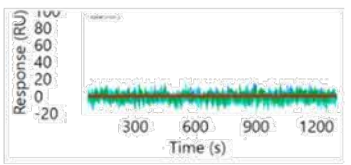
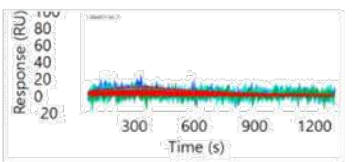
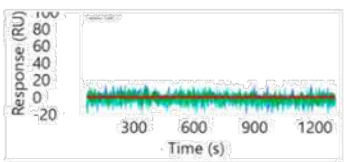
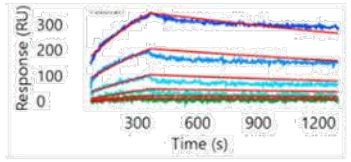
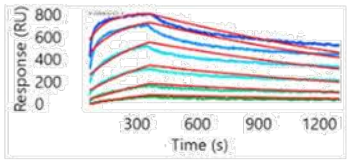
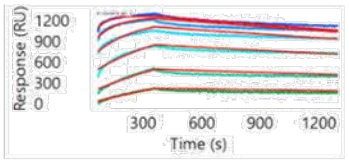
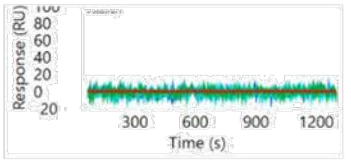
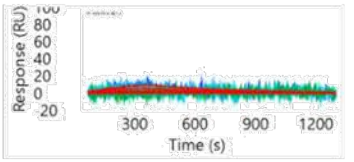
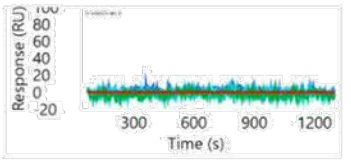
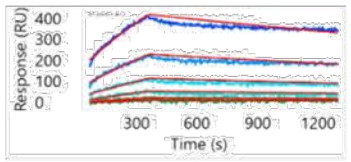
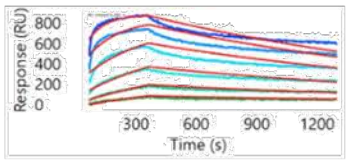
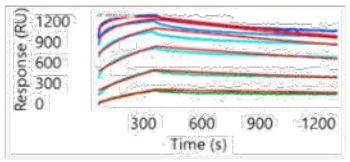
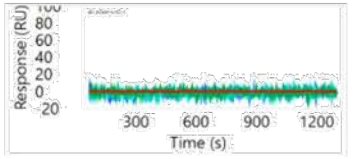
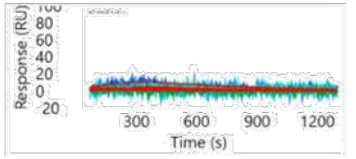
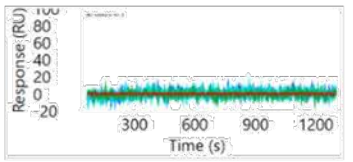
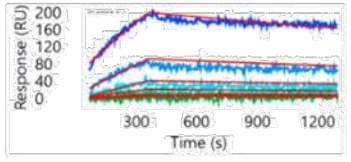
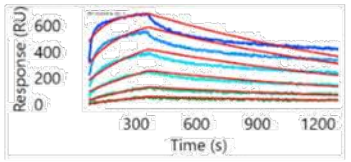
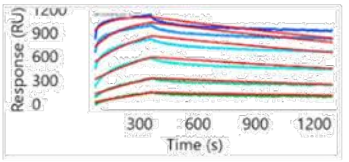
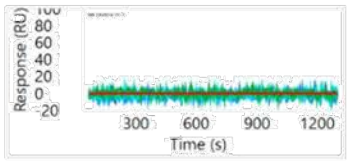
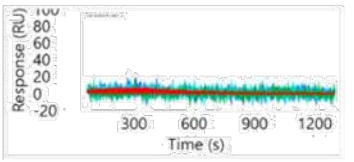
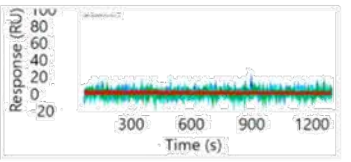
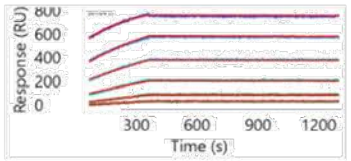
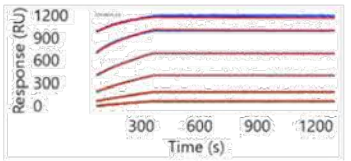
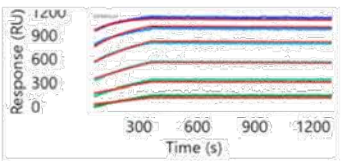
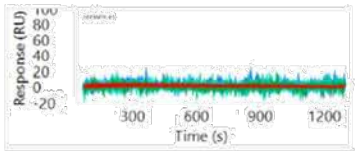
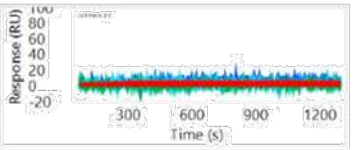
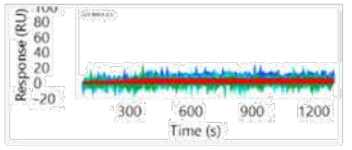
SPR data demonstrate binding characteristics consistent with binding of caldera

Sample	BG505 – open (+CD4)	B41 – open (+CD4)	ZM197M – open (+CD4)	BG505 – closed (-CD4)	B41 – closed (-CD4)	ZM197M – closed (-CD4)
ASN3013						
ASN3014						
ASN3015						
ASN3016						
17b IgG						

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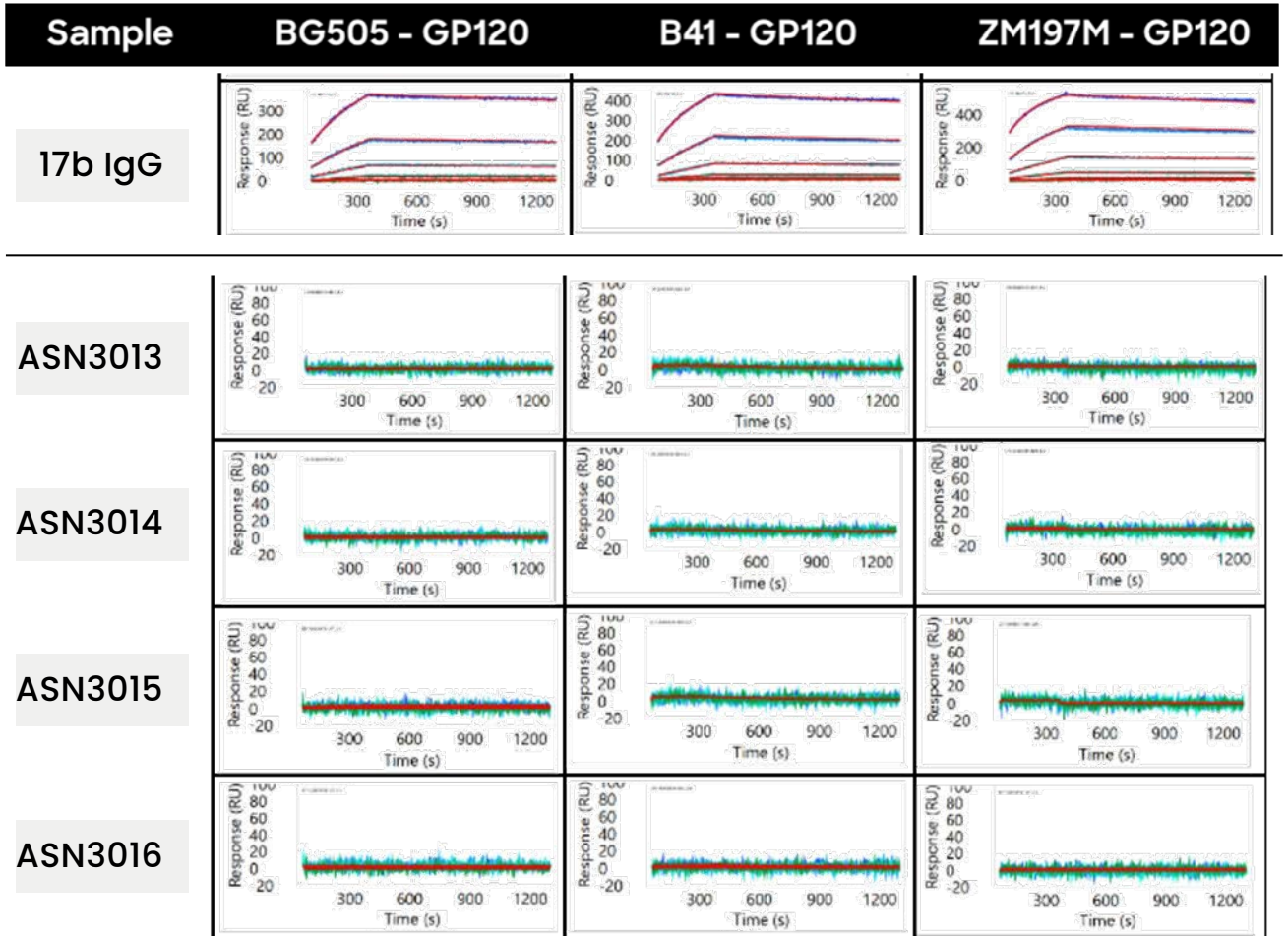
HIV-Caldera: SPR demonstrates no binding of de novo designs to GP120 monomer



Hypothesis:

If the designed mAbs are binding to the caldera region we should not observe binding to monomeric GP120 since the caldera is only present in the Env trimer

Key results:

- ✓ 17b showed high affinity binding to monomeric GP120 as expected
- ✓ Absci mAbs showed no binding to monomeric GP120, suggesting these binders are targeting an epitope that is only present in the Env trimer

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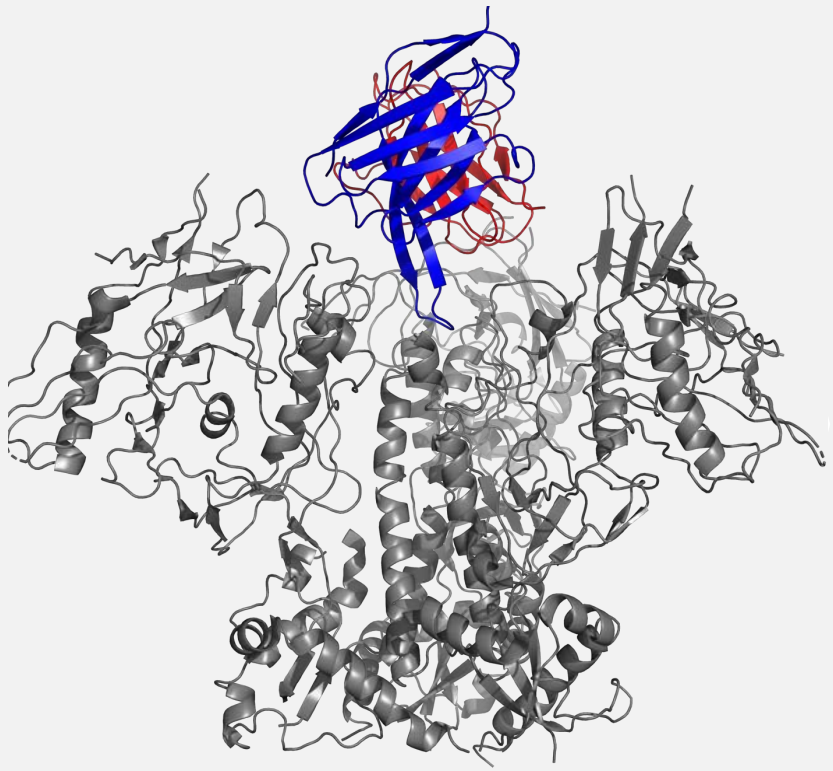
HIV-Caldera: demonstrating AI de novo design for challenging target



SUMMARY

- *de novo* design model created a novel and diverse antibody which binds multiple clades of HIV indicating successful targeting of the caldera epitope
- Screening cascade enabled selection of differentially binding variants

NEXT STEPS

- Binders from this study will be selected for affinity maturation
- Structure of *de novo* binder and epitope specificity will be experimentally solved to confirm fidelity with designed structure and targeted epitope

AI CASE STUDY II

AI Optimization for pH sensitivity

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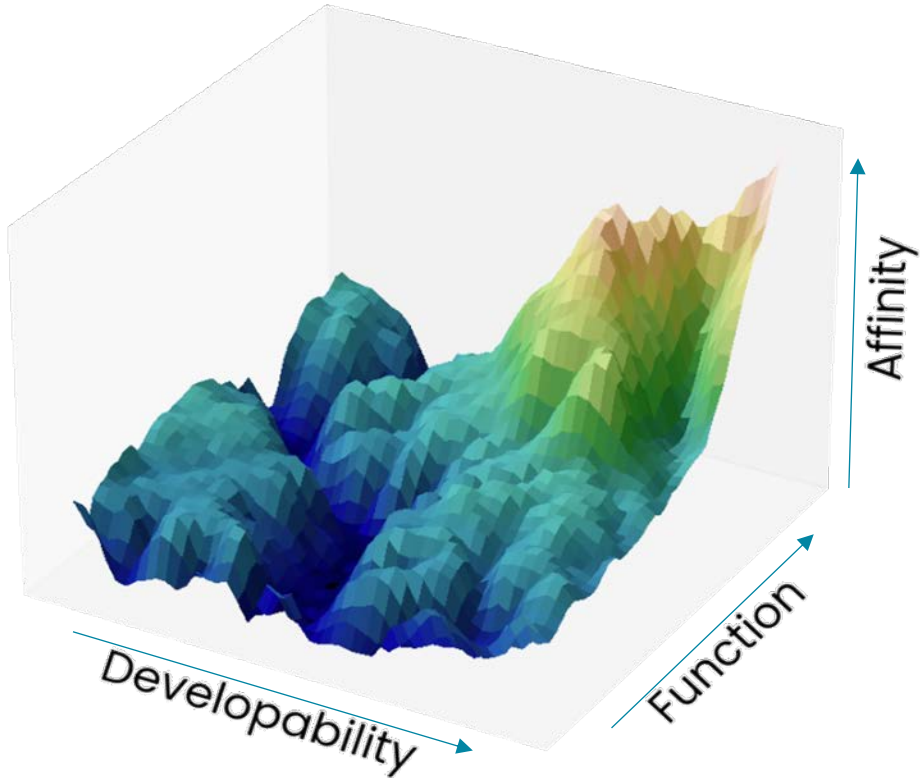
AI lead optimization platform for ‘smart biologics’

The Challenge

The diversity of antibodies is vast, making it impossible for traditional methods to explore effectively.

Absci Solution

Our AI can search a space of ~10^{19}, a million times larger than traditional methods, identifying functional, developable antibodies in one step.



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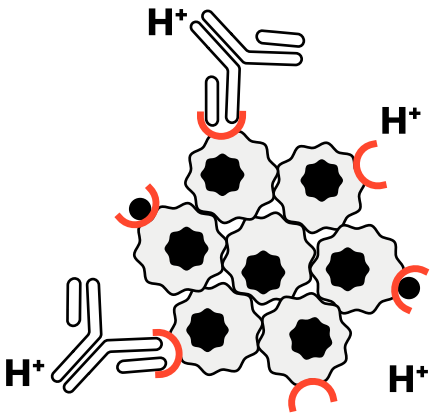
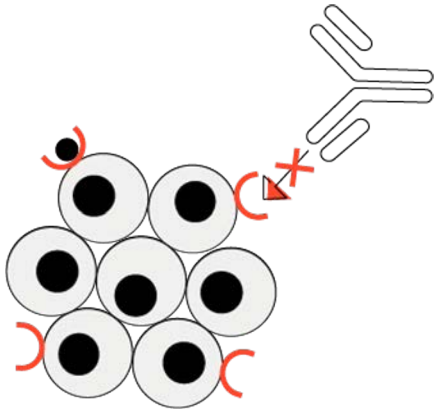
pH sensitivity may reduce toxicity and/or improve efficacy of therapeutic mAbs

Tumor specificity improves efficacy and reduces ”on-target off-tumor” toxicities

Binding occurs in the acidic pH of the tumor microenvironment

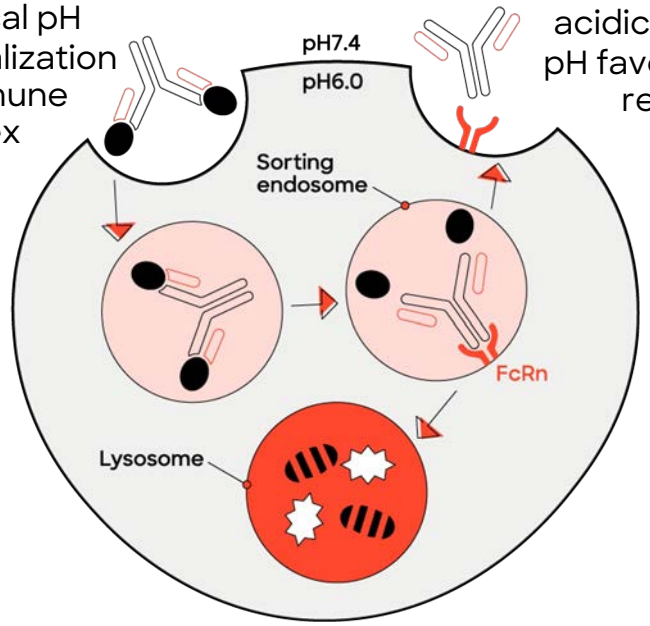


No binding occurs in the neutral pH surrounding healthy cells



Disassociation in the endosome drives antibody recycling and efficient clearance of soluble targets

Binding at physiological pH drives internalization of the immune complex



Dissociation at acidic endosomal pH favors antibody recycling

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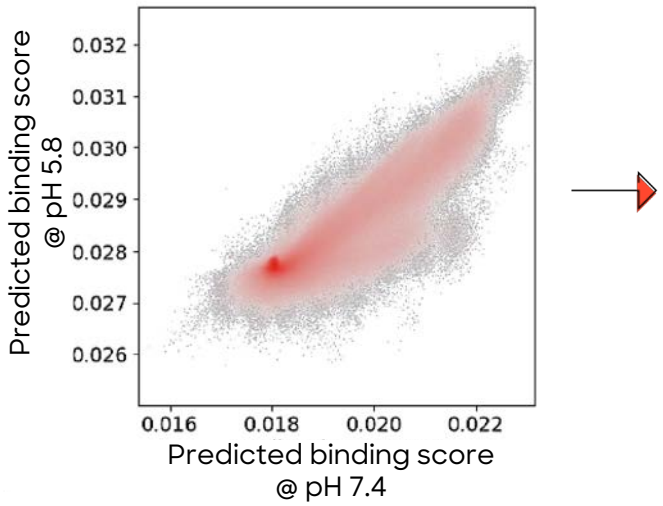
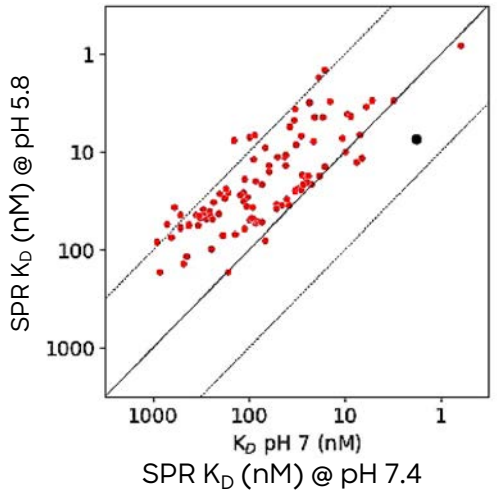
Models identify pH sensitive Fab variants from the same lead for either indication

1. Library for model training sampled 60 positions on heavy chain framework and CDRs with up to 7 substitutions biased for ionizable residues (H, K, R, D, E)
2. Library screened for antigen binding at pH 7.4 and pH 5.8
3. Model trained and used to generate antibodies with tuned pH dependency

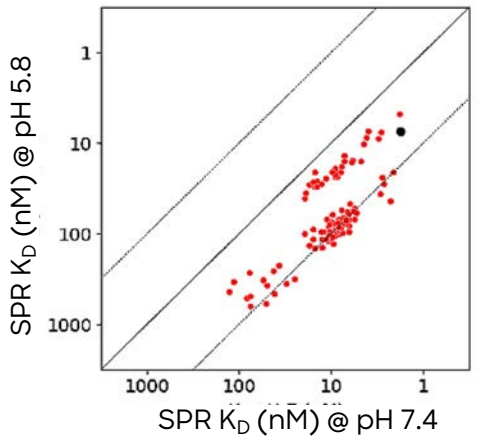
AI affinity scoring of variants within a large combinatorial space



Lab measured affinities of Fab variants predicted to have tighter binding at low pH



Lab measured affinities of Fab variants predicted to have tighter binding at neutral pH

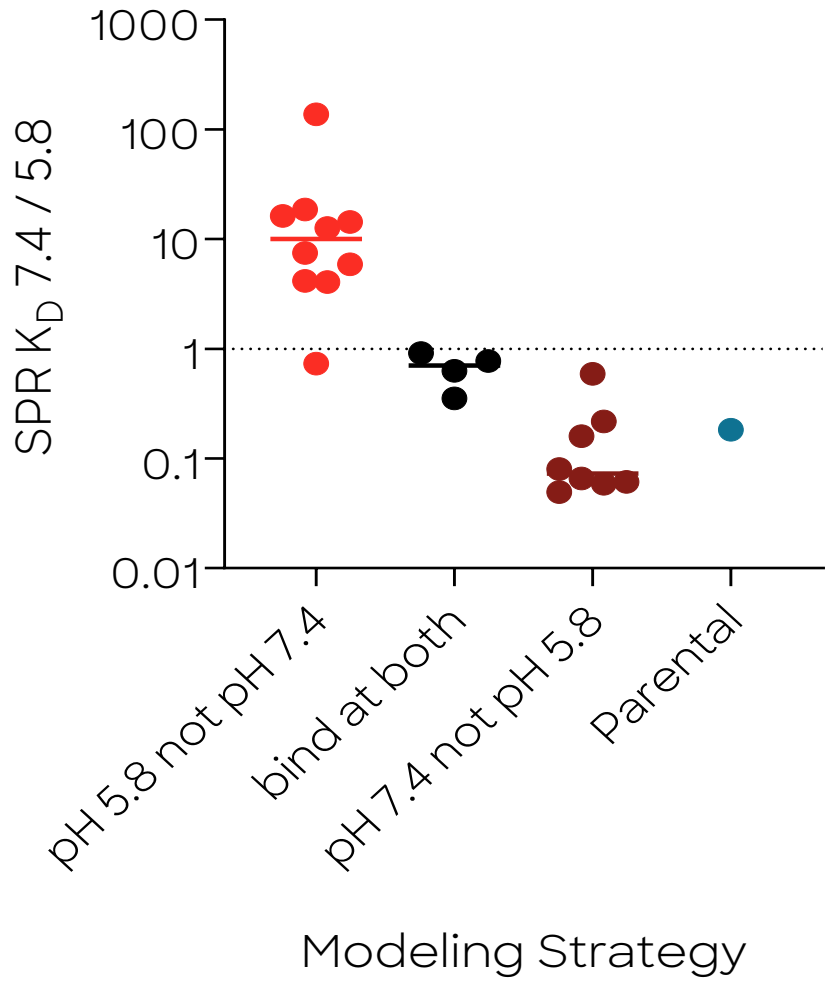


CASE STUDY #2

Hits reformatted as mAbs show desired binding profiles

SUMMARY

- AI optimized leads achieves variants with pH sensitive binding up to 100x differential
- pH-sensitive leads had no liabilities for stability, aggregation and polyreactivity[1]
- Model proposed mutations use all 6 ionizing residues in heavy chain CDRs and framework region
- Sequences were proposed from a >1013 combinatorial space



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Summarized platform case studies

de novo Design

- de novo design model created molecule binds multiple clades of HIV suggesting successful targeting of the caldera epitope
-
- Represents second disclosed target success for our de novo platform in the 2nd half of this year

Absci's de novo design platform can successfully address difficult to drug target epitopes

AI Optimization

- Models identify unseen variants with 10x-20x pH sensitivity in both directions, and up to 100x differential compared to parental molecule after only one round

- Designed leads had no liabilities indicating the ability to successfully search a fitness landscape

Absci's lead optimization platform enables molecules with differentiated pharmacology