KINIKSA

Corporate Presentation

FEBRUARY 2022

Forward Looking Statements

This presentation (together with any other statements or information that we may make in connection herewith) contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 with respect to Kiniksa Pharmaceuticals, Ltd. (and its consolidated subsidiaries, collectively, unless context otherwise requires, "Kiniksa," "we," "us" or "our"). In some cases, you can identify forward looking statements by terms such as "may," "will," "should," "expect," "plan," "anticipate," "could," "intend," "goal," "design," "target," "project," "contemplate," "believe," "estimate," "predict," "potential," "strategy," or "continue" or the negative of these terms or other similar expressions, although not all forward-looking statements contain these identifying words. All statements contained in this presentation that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation, statements regarding our strategy; potential value drivers; potential indications; potential market opportunities and competitive position; ongoing, planned and potential clinical trials and other studies; timing and potential impact of clinical data; regulatory and other submissions, applications and approvals; commercial strategy and commercial activities; expected run rate for our cash, cash equivalents and short-term investments; expected funding of our operating plan; financial guidance; third-party collaborations; and capital allocation.

These statements involve known and unknown risks, uncertainties, and other important factors that may cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements, including, without limitation, potential delays or difficulties with our clinical trials; potential inability to demonstrate safety or efficacy or otherwise producing negative, inconclusive or uncompetitive results; potential for changes in final data from preliminary or interim data; potential inability to replicate in later clinical trials positive results from earlier trials and studies; our reliance on third parties for manufacturing and conducting clinical trials, research and other studies; our ability to source sufficient drug product, as needed, to meet our clinical and commercial requirements; our inability to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities; potential for applicable regulatory authorities to not accept our filings or to delay or deny approval of, or emergency use authorization for, any of our product candidates or to require additional data or trials to support any such approval or authorization; delays, difficulty or inability successfully execute on our commercial strategy for ARCALYST; potential changes in our strategy, clinical trial priority, operating plan and funding requirements; raw material, important ancillary product and drug substance and/or drug product shortages; substantial new or existing competition; potential impact of the COVID-19 pandemic, and measures taken in response to the pandemic, on our business and operations as well as the business and operations of our manufacturers, CROs upon whom we rely to conduct our clinical trials, and other third parties with whom we conduct business or otherwise engage, including the FDA and other regulatory authorities; and our ability to attract and retain qualified personnel.

These and the important factors discussed in our filings with the U.S. Securities and Exchange Commission, including under the caption "Risk Factors" contained therein, could cause actual results to differ materially from those indicated by the forward-looking statements made in this presentation. These forward-looking statements reflect various assumptions of Kiniksa's management that may or may not prove to be correct. No forward-looking statement is a guarantee of future results, performance, or achievements, and one should avoid placing undue reliance on such statements. Except as otherwise indicated, this presentation speaks as of the date of this presentation. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

This presentation also contains estimates, projections, and/or other information regarding our industry, our business and the markets for certain of our product candidates, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, clinical trials, studies and similar data prepared by market research firms and other third parties, from industry, medical and general publications, and from government data and similar sources. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information.

ARCALYST is a registered trademark of Regeneron Pharmaceuticals, Inc.

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Developing Life-Changing Medicines For The Patients Who Need Them Most

BY THE NUMBERS

1 FDA-approved therapy

3 Clinical-stage assets

3 Orphan Drug designations

2 Breakthrough designations

2015 Company founded

2021 Commercial availability of first and only FDA-approved therapy for recurrent pericarditis in the US: ARCALYST® (rilonacept)

LOCATIONS

MORE STRENGTHS

- Passionate employees
- A robust pipeline of product candidates for debilitating diseases
- Find and deliver novel treatments for patients with a significant unmet need
- Focus on immune modulation
- Strong biologic rationale and validated mechanisms
- In-house research team and lab
- Kiniksa manufacturing for early-stage programs

DISEASE AREAS

- Recurrent Pericarditis
- Cryopyrin-Associated Periodic Syndromes (CAPS)
- Deficiency of IL-1 Receptor Antagonist (DIRA)
- Prurigo Nodularis
- Rheumatoid Arthritis
- Evaluating development in cardiovascular diseases

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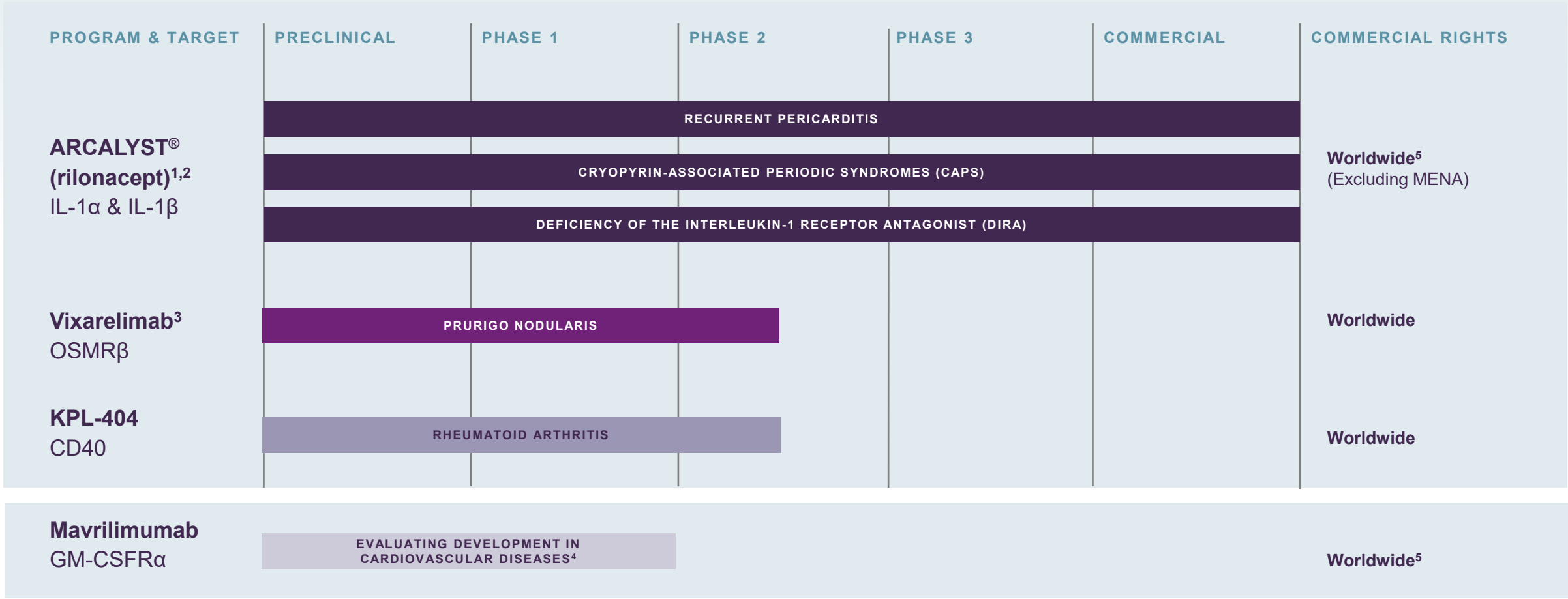
Portfolio of Four Immune-Modulating Assets



1) Approved in the U.S; 2) The FDA granted Breakthrough Therapy designation to ARCALYST for recurrent pericarditis in 2019; the FDA granted Orphan Drug exclusivity to ARCALYST in March 2021 for the treatment of recurrent pericarditis and reduction in risk of recurrence in adults and pediatric patients 12 years and older. The European Commission granted Orphan Drug designation to ARCALYST for the treatment of idiopathic pericarditis in 2020.; 3) The FDA granted Breakthrough Therapy designation to vixarelimab for the treatment of pruritus associated with prurigo nodularis in 2020; 4) Phase 2 clinical trials of mavrilimumab in rheumatoid arthritis and giant cell arteritis achieved their primary and secondary endpoints with statistical significance; 5) Kiniksa granted Huadong Medicine exclusive rights in the Asia Pacific Region, excluding Japan; IL-1α = interleukin-1α ; IL-1β = interleukin-1β; GM-CSFRα = granulocyte macrophage colony stimulating factor receptor alpha; OSMRβ = oncostatin M receptor beta; MENA = Middle East and North Africa

Strategic Collaboration with Huadong Medicine for Asia Pacific Region

- Collaboration includes exclusive rights to develop and commercialize ARCALYST and mavrilimumab in the Asia Pacific Region (excluding Japan).
- Kiniksa will receive $22 million upfront and is eligible to receive up to approximately $640 million in specified development, regulatory and sales-based milestones.
  - The upfront payment includes $12 million for the territory license of ARCALYST and $10 million for the territory license of mavrilimumab.
- Kiniksa is also eligible to receive tiered royalties ranging from the low-teens to the low-twenties on annual net sales.
- Kiniksa will retain all existing development and commercialization rights for both assets.

Collaboration provides non-dilutive capital and resources to expand our clinical trials into the Asia Pacific Region to accelerate Kiniksa's drug development and commercialization efforts

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ARCALYST®

Arcalyst® (rilonacept) For Injection

IL-1α AND IL-1β CYTOKINE TRAP

DISEASE AREA: Recurrent pericarditis[1]; painful and debilitating auto-inflammatory cardiovascular disease

COMPETITION[2]: First and only FDA-approved therapy for recurrent pericarditis

REGULATORY: U.S. Orphan Drug exclusivity for treatment of and reduction in risk of recurrence of recurrent pericarditis; European Commission Orphan Drug designation in idiopathic pericarditis

STATUS: FDA-Approved

ECONOMICS: 50/50 profit split on profit and third-party proceeds

RIGHTS: Kiniksa has worldwide rights[3] (excluding MENA) for all indications outside those in oncology and local administration to the eye or ear

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1) ARCALYST is also approved and marketed for Cryopyrin-Associated Periodic Syndromes (CAPS) and maintenance of remission of Deficiency of Interleukin-1 Receptor Antagonist (DIRA) in the United States; 2) Drugs@FDA: ARCALYST Prescribing Information, Ilaris Prescribing Information, Kineret Prescribing Information; Kaiser et al. Rheumatol Int (2012) 32:295–299; Theodoropoulou et al. Pediatric Rheumatology 2015, 13(Suppl 1):P155 ; Fleischmann et al, 2017 ACR/ARHP Abstract 1196; Kosloski et al, J of Clin Pharm 2016, 56 (12) 1582-1590; Cohen et al. Arthritis Research & Therapy 2011, 13:R125; Cardiel et al. Arthritis Research & Therapy 2010, 12:R192; Hong et al. Lancet Oncol 2014, 15: 656-666; 3) Kiniksa granted Huadong Medicine exclusive rights in the Asia Pacific Region, excluding Japan; IL-1α = interleukin-1α ; IL-1β = interleukin-1β; MENA = Middle East North Africa

ARCALYST Label

ARCALYST is a patient-administered once-weekly subcutaneous therapy

ADULTS (18 years and older)	**ADOLESCENTS** (12 to 17 years)
Loading dose: **320 mg** delivered as two 160 mg (2 mL) injections	**Loading dose:** **4.4 mg/kg** delivered up to a maximum of 320 mg, delivered as 1 or 2 injections (not to exceed 2 mL/injection)
Weekly maintenance dose: **160 mg** delivered once weekly as a 2 mL injection	**Weekly maintenance dose:** **2.2 mg/kg** delivered up to a maximum of 160 mg (2 mL) injection, once weekly

The first injection of ARCALYST should be performed under the supervision of a healthcare professional.

ARCALYST is supplied in sterile, single-use, 20-mL glass vials

- Each vial contains 220 mg ARCALYST, a sterile, white to off-white lyophilized powder
- Reconstitution with 2.3 mL of preservative-free Sterile Water for Injection is required prior to subcutaneous administration of the drug
- The reconstituted ARCALYST is a viscous, clear, colorless to pale yellow, free from particulates, 80-mg/mL preservative-free solution

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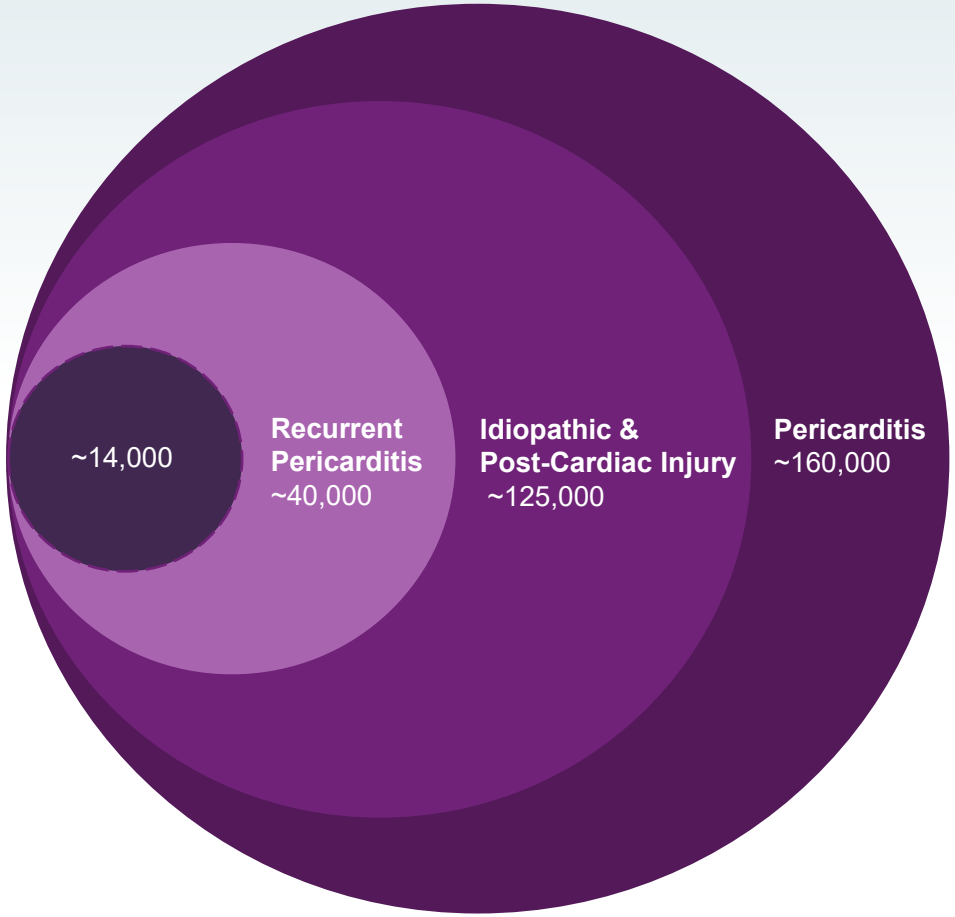
Pericarditis Epidemiology



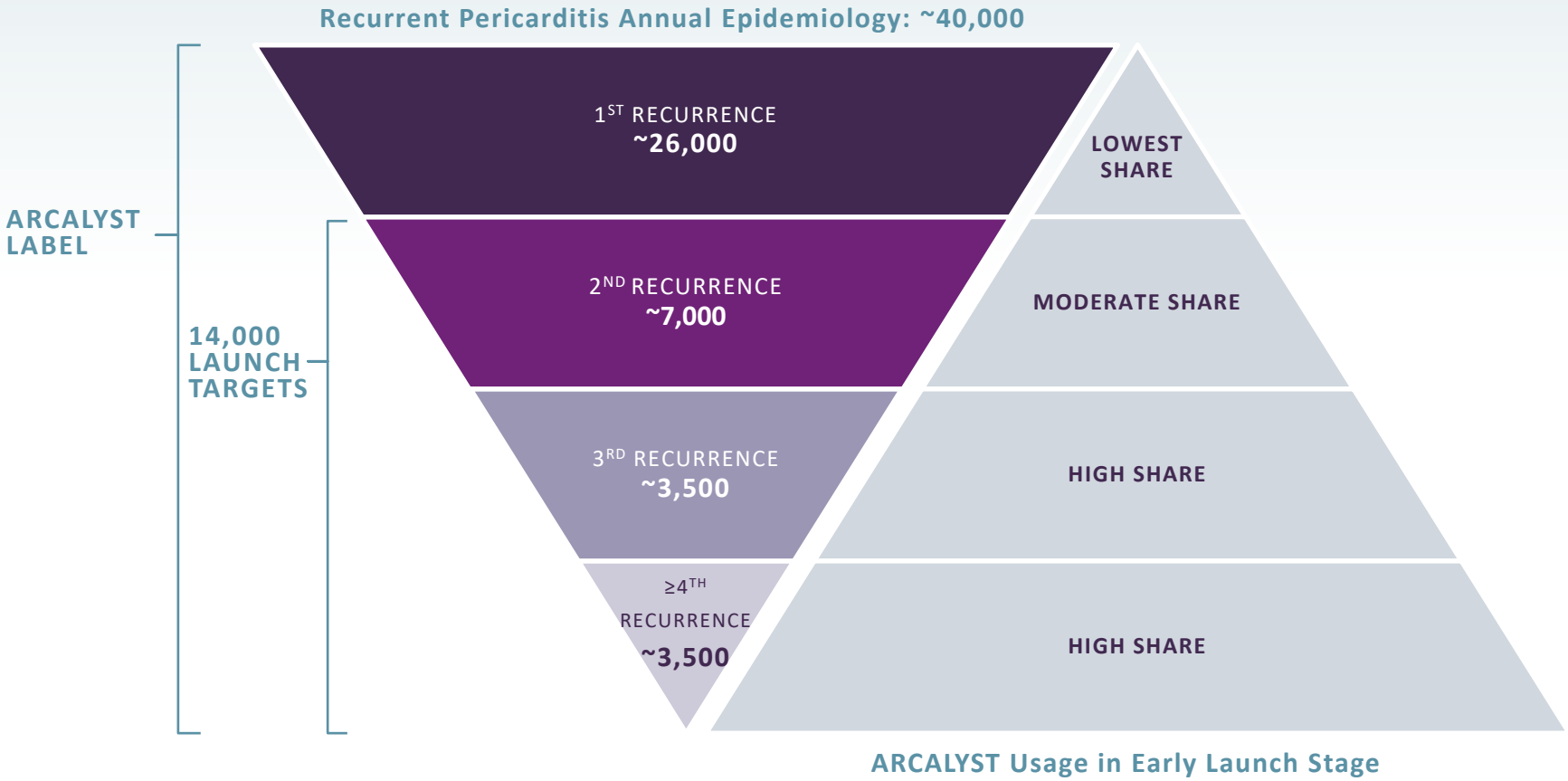
All figures annual period prevalence

Approximately 14,000 recurrent pericarditis patients in the U.S. suffer from persistent underlying disease, with multiple recurrences and inadequate response to conventional therapy[1]

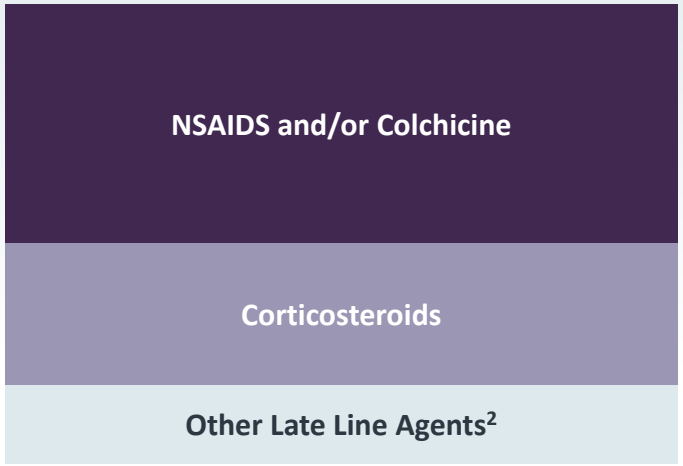
- **~ 160,000:** Epidemiological analysis using large national surveillance databases to calculate the pooled annualized prevalence of pericarditis ***(Basis for Orphan Drug Designation approval)[2]***
- **~125,000:** Approximately 75-80% are considered idiopathic (thought to be post-viral) and post cardiac injury[3-5]
- **~40,000:** Up to 30% experience at least one recurrence; some recur over multiple years[6,7]
- **~14,000:** Nearly 50% annual turnover with ~7,000 patients coming into the pool each year[8]

1) Cremer et al. American Journal of Cardiology. 2016;2311-2328; 2) DOF, Kiniksa Pharmaceuticals, Ltd.; 3) Brucato A, Maestroni S, Cumetti D, et al. Autoimmun Rev. 2008; 8:44-47; 4) Lange R, Hills L. N Engl J Med. 2004; 351: 2195-2202; 5) Imazio M, Cecchi E, Demichelis B, et al. Circulation. 2007; 115: 2739-2744; 6) Imazio et al. Circulation. 2005;112:2012-2016; 7) Adler et al. Circulation. 1998;97:2183-2185; 8) DOF, Kiniksa Pharmaceuticals, Ltd.

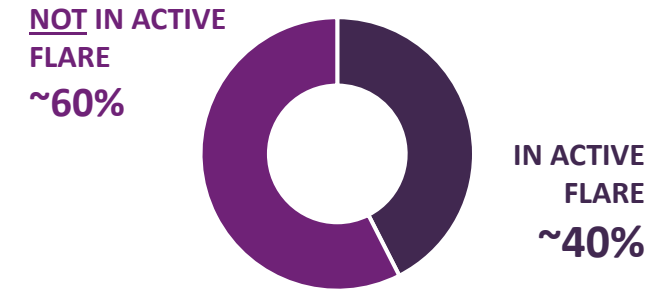
Early Treated Patients Are Closely Associated to the Launch Target Population, While Prescribers Can Utilize ARCALYST Earlier in the Disease



ARCALYST PATIENTS BY PRIOR PRODUCT[1]



ARCALYST PATIENTS BY FLARE STATUS @ INITIATION[1]



Klein A, Cremer P, Kontzias A, Furqan M, Tubman R, Roy M, Magestro M. Annals of Epidemiology. 2019;36:71; 2) Lin D, Majeski C, DerSarkissian M, Magestro M, Cavanaugh C, Laliberte F, Lejune D, Mahendran M, Duh M, Klein A, Cremer P, Kontzias A, Furqan M, Tubman R, Roy M, Mage. (Nov, 2019). Real-World Clinical Characteristics and Recurrence Burden of Patients Diagnosed with Recurrent Pericarditis in the United States. Poster session presented at the American Heart Association, Philadelphia, PA.; 3) ClearView Forecasting Analysis 2019 Q1

Source: 1) Kiniksa Pharmaceuticals data on file 2021. 2) Other late line agents include anakinra, azathioprine, methotrexate

Collaborative Field Force to Drive Awareness, Overcome Access Barriers and Help Ensure Positive Patient and Physician Experience

CLINICAL SALES SPECIALISTS

- **Focus:** ~2500 HCPs across ~800 accounts
- **Responsibility:** Physician accounts, disease education, ARCALYST promotion, account and territory plans, speaker program planning

STRATEGIC ACCOUNTS

- **Focus:** ~350 payers and 5 Specialty Pharmacies
- **Responsibility:** Payer/specialty pharmacy relationship, strategic account planning, support sales team

MEDICAL SCIENCE LIAISONS

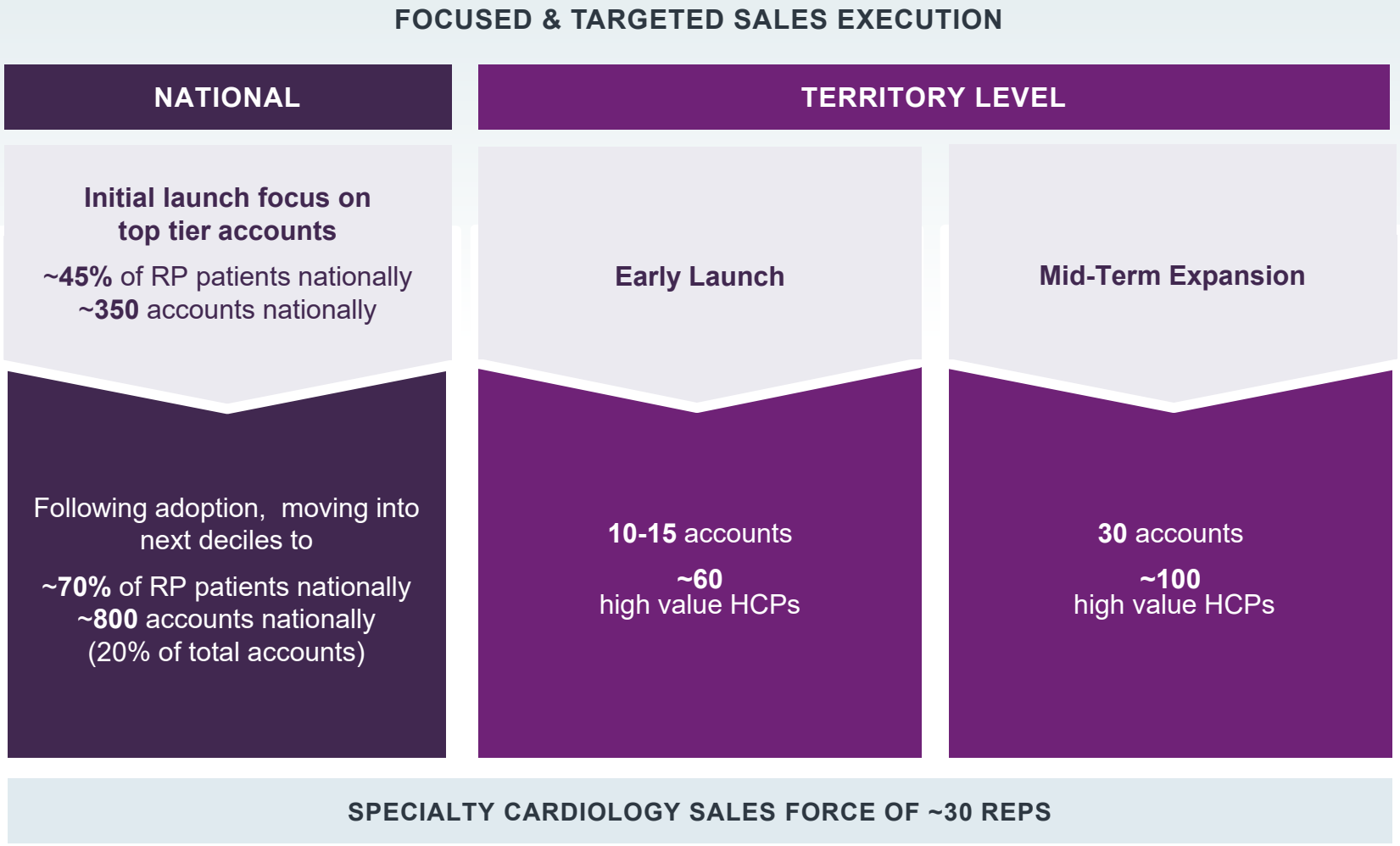
- **Focus:** Subject Matter Experts and HCPs
- **Responsibility:** Disease awareness, data dissemination, advocacy development, account and payer support, speaker management

KINIKSA ONECONNECT™

- **Focus**: Patients and caregivers, HCPs seeking reimbursement support for their patients
- **Responsibility:** Optimize patient and customer experience with ARCALYST and Kiniksa, provide seamless initiation, reimbursement, and adherence support

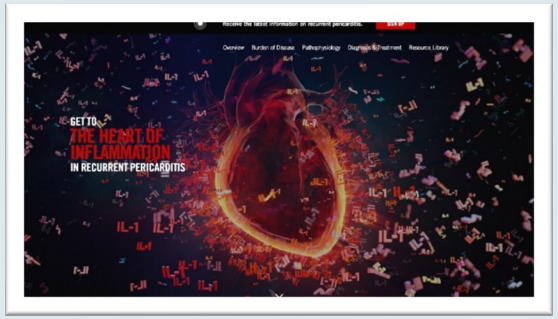
HCP = health care provider

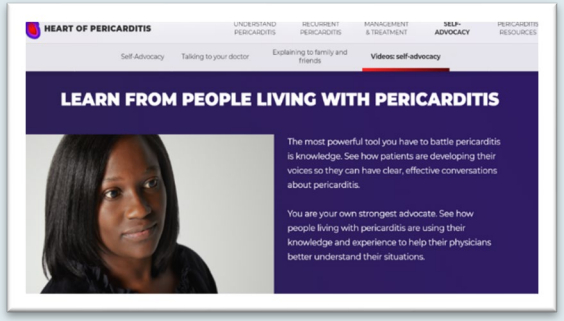
Specialty Cardiology Salesforce Expected to Reach ~70% of U.S. Recurrent Pericarditis Patients

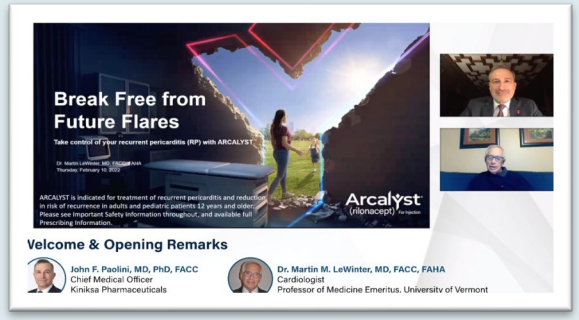


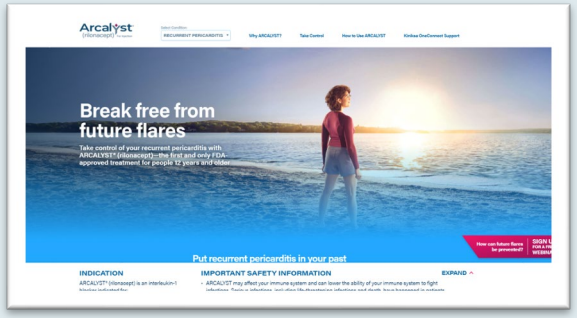
Connecting with Patients by Increasing Disease and Treatment Awareness

Educational Webinars, Search Optimization, Social Media, Patient Advocacy and Targeted Advertising is Driving Awareness and Database Opt-Ins









~2,300

Pericarditis Patients & Caregivers Currently Opted-In to Kiniksa Database

- **Tailored communication plan developed to educate and support patients**
- **Messaging individualized to each stage of the patient journey (diagnosis, initial recurrence, subsequent recurrence)**
- **Empowers patients to take action and discuss ARCALYST with their healthcare professional**

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Pricing, Access and Distribution Considerations

Pricing

- Kiniksa maintains the already established list price for ARCALYST **of $20,000 per month**

  Based on first and only FDA-approved therapy for recurrent pericarditis, in-line with specialty biologics with Breakthrough Therapy and Orphan Drug designation

- Helping to ensure patient affordability and access to treatment is one of our core principles and to this end, we offer a suite of programs to support affordability to eligible patients who are prescribed ARCALYST

Access

- Kiniksa's goal is to enable rapid and broad access to ARCALYST for patients with Recurrent Pericarditis, CAPS, and DIRA
- Payer mix for ARCALYST is largely **commercial (60%) and Medicare (25%)**
- Early payer engagement has increased awareness of recurrent pericarditis and the differentiated value of ARCALYST
- **Kiniksa OneConnect™** is a personalized treatment support program for patients prescribed ARCALYST

Distribution

- ARCALYST is distributed through a closed network of **5 specialty pharmacies and the Veterans Affairs**
- The distribution network for ARCALYST was developed to provide a high and consistent level of patient support with broad access. Network pharmacies provide customized services to support patients

CAPS = Cryopyrin-Associated Periodic Syndromes ; DIRA = Deficiency of IL-1 Receptor Antagonist

Continued ARCALYST Growth in Q4 2021

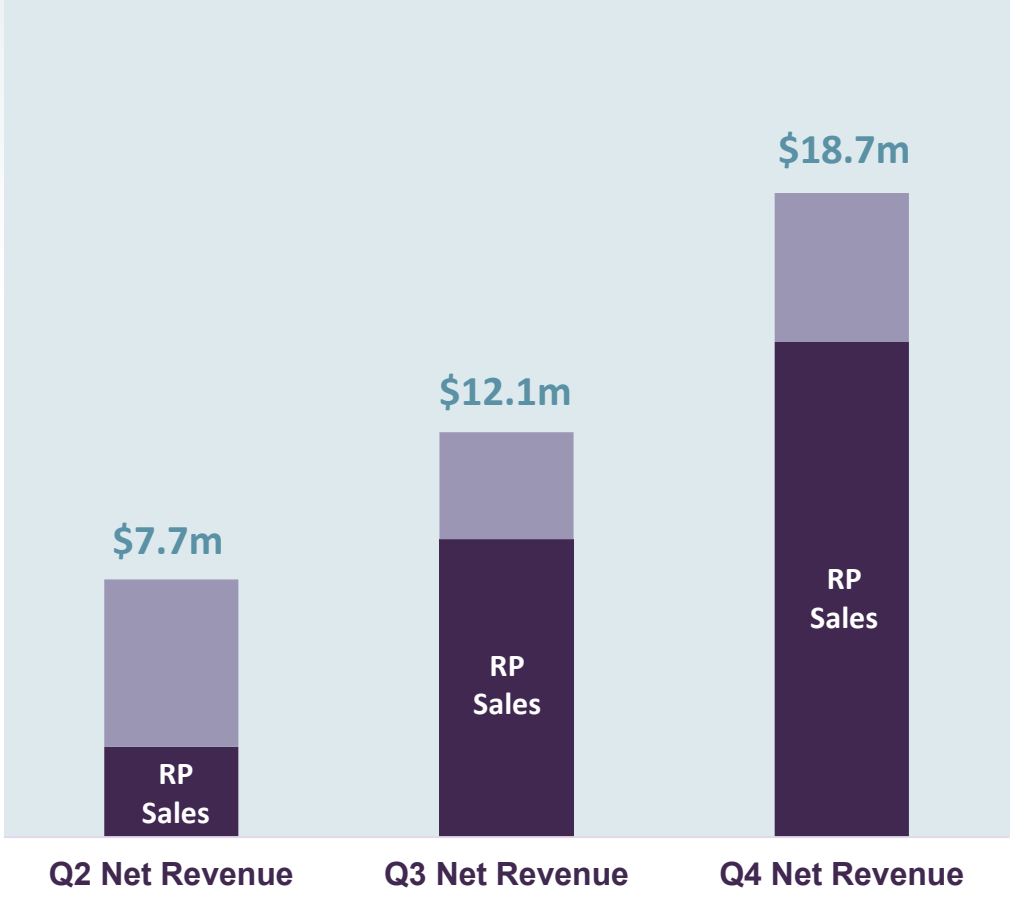
Net Revenue

- ARCALYST net revenue for Q4 2021 was $18.7 million; total 2021 net revenue since launch on April 1, 2021 was $38.5 million
- ARCALYST collaboration achieved profitability in Q4 2021 only three quarters after launch

Revenue Drivers

- Strong recurrent pericarditis demand was the primary growth driver with accelerated new patient initiations, strong adherence and compliance.
- CAPS and DIRA patient demand remained stable and broadly consistent with the previous quarters.
- Growth rate represents continued uptake and adoption of ARCALYST from physicians, payers and patients in this previously unmet and debilitating autoinflammatory cardiovascular disease.

Revenue Since Launch (April 2021): $38.5m



Kiniksa is expecting 2022 ARCALYST net revenue of $115-130 million

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CAPS = cryopyrin-associated periodic syndromes; DIRA = deficiency of IL-1 receptor antagonist

Continued Execution and Early Patient Experiences Have Driven Desired Results and Set ARCALYST Up for Strong Future Growth

Continued Broad Prescriber Adoption with Growing Depth

- More than 300 prescribers have prescribed ARCALYST for recurrent pericarditis since approval
- More than 50 physicians have prescribed ARCALYST for two or more recurrent pericarditis patients

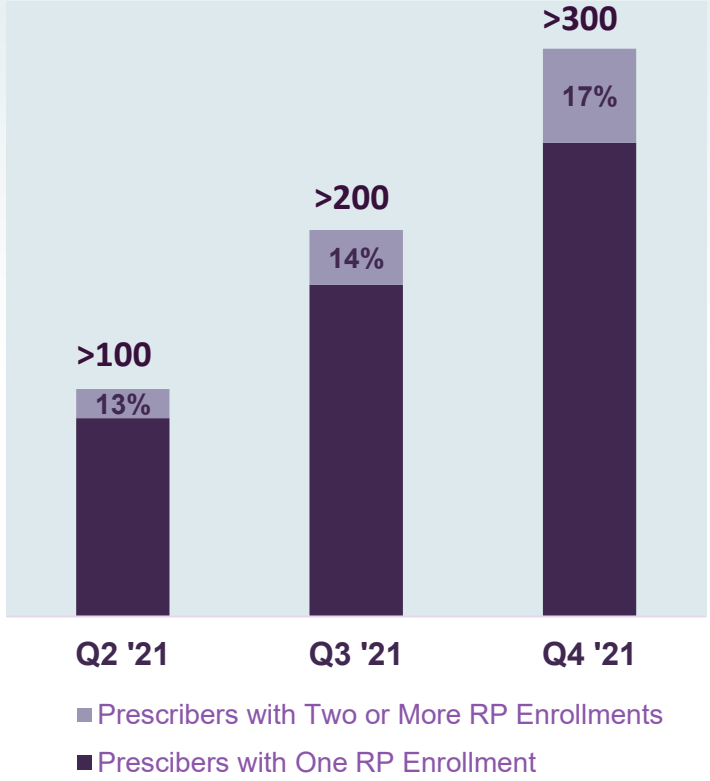
Strong Payer Experience

- In Q4, 95% of completed patient enrollment cases for recurrent pericarditis were approved for coverage
- Since launch, the median time prior to requiring re-authorization from payers is one year

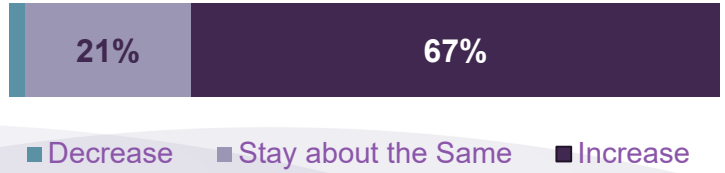
Adherence and Duration

- Adherence to ARCALYST in recurrent pericarditis has been strong, with refills generally happening on time
- Two thirds of initial ARCALYST prescriptions for recurrent pericarditis have been written for 12 months of therapy
- Approximately 70% of recurrent pericarditis patients who started ARCALYST in the second quarter of 2021 remained on therapy at the end of 2021

BREADTH AND DEPTH OF PRESCRIBER ADOPTION

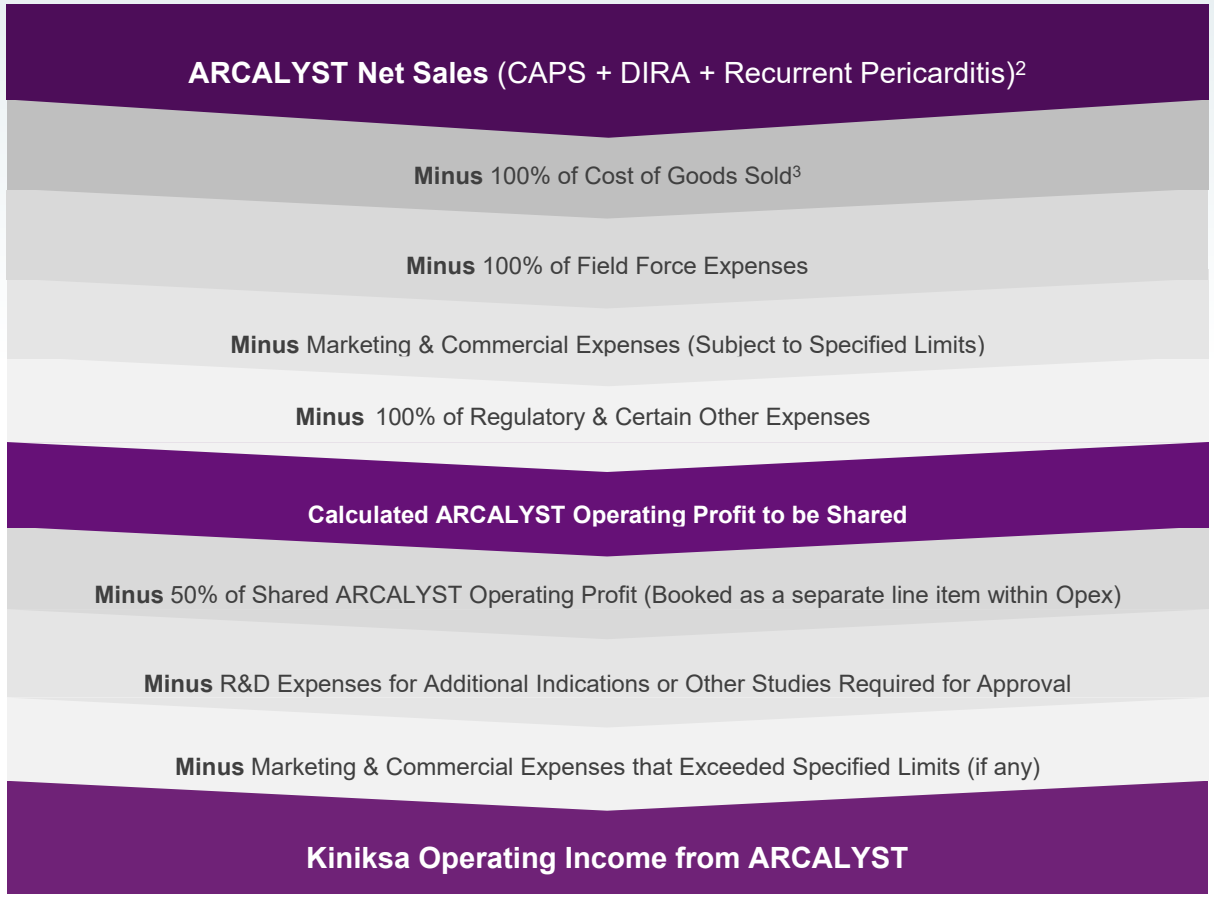


ANTICIPATED FUTURE ARCALYST PRESCRIBING[1]



1: Among Cardiologists aware of ARCALYST. Data on file.

Summary of ARCALYST Profit Share Arrangement with Regeneron[1]



- Kiniksa is responsible for sales and distribution of ARCALYST in all approved indications in the United States.
- Kiniksa's license to ARCALYST includes worldwide rights, excluding the Middle East and North Africa, for all applications other than those in oncology and local administration to the eye or ear.
- Kiniksa covers 100% of development expenses related to approval of additional indications.
- We evenly split profits on sales with Regeneron

1) Subject to description contained in definitive agreement; 2) Global net sales for CAPS, DIRA and recurrent pericarditis recognized as revenue on Kiniksa's income statement; 3) Including cost of product purchased from Regeneron as well as relevant Kiniksa overhead; CAPS = Cryopyrin-Associated Periodic Syndromes; DIRA = Deficiency of the Interleukin-1 Receptor Antagonist

VIXARELIMAB

MONOCLONAL ANTIBODY INHIBITOR TARGETING OSMRB (IL-31 and OSM)

DISEASE AREA: Prurigo Nodularis (PN); chronic inflammatory skin disease with pruritic nodules

COMPETITION[1]: No FDA-approved therapies for PN

REGULATORY: U.S. Breakthrough Therapy designation for the treatment of pruritus associated with prurigo nodularis

STATUS: Enrolling and dosing patients in a Phase 2b dose-ranging clinical trial; Data expected in 2H 2022

ECONOMICS: Clinical, regulatory and sales milestones; tiered royalty on annual net sales

RIGHTS: Worldwide

1) Journal of the American Academy of Dermatology - Analysis of Real-World Treatment Patterns in Patients with Prurigo Nodularis: https://www.jaad.org/article/S0190-9622(19)32744-6/pdf ; OSMRβ = oncostatin M receptor beta

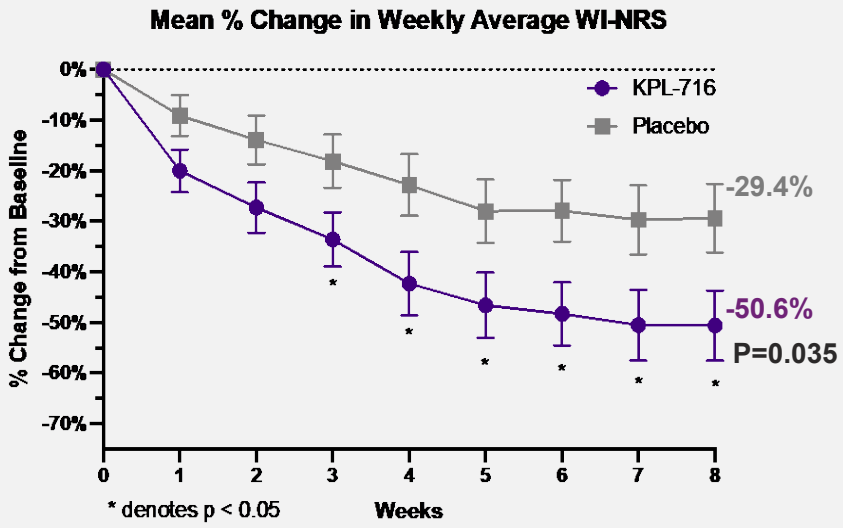
Dual Mechanism Offers Potential Pruritus Relief and Nodule Improvement

Vixarelimab Phase 2a prurigo nodularis data

Vixarelimab is the only mAb targeting OSMRβ, which mediates signaling of key cytokines (IL-31 & OSM)

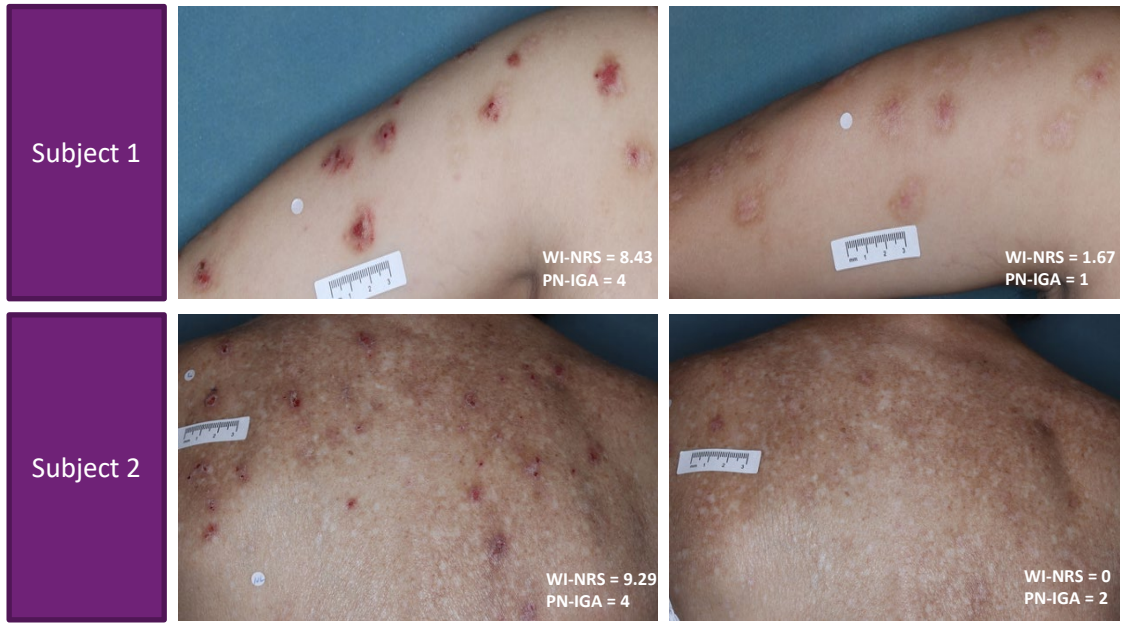
Primary Efficacy Endpoint

Mean change in weekly-average WI-NRS at Week 8 was -50.6% in vixarelimab recipients compared to -29.4% in placebo recipients (p=0.035).



Secondary Efficacy Endpoint

30.4% of vixarelimab recipients achieved a PN-IGA score of 0/1 at Week 8 compared to 7.7% of placebo recipients (p=0.032).



Representative Treatment Response

mAb = monoclonal antibody; OSMRβ = oncostatin M receptor beta; IL-31 = interleukin-31; OSM = oncostatin M; WI-NRS = Worst-Itch Numeric Rating Scale; PN-IGA = prurigo nodularis-investigator's global assessment

Enrolling and Dosing Patients in a Randomized Phase 2b Study of Vixarelimab in Prurigo Nodularis Across Range of Once-Monthly Dosing Regimens

EXPECTED TO ENROLL APPROX. 180 PATIENTS

- Prurigo nodularis could potentially be a meaningful opportunity
- Currently no FDA-approved therapies for prurigo nodularis and limited therapeutic options.
- Prevalence of around 300k in the US
- Market could sustain multiple entrants, especially one with differentiated mechanism

PRIMARY EFFICACY ENDPOINT (WEEK 16):

- Percent change from baseline in weekly average Worst-Itch NRS (WI-NRS) at week 16; Objective is to define a minimum effective dose level with practical subcutaneous dosing
- For each comparison, 38 subjects in each arm will provide 80% power to demonstrate a treatment effect vs placebo, assuming treatment effect of 23% difference in weekly average WI-NRS reduction from baseline at Week 16, standard deviation of 35%, and two-sided alpha of 0.05

KEY SECONDARY EFFICACY ENDPOINTS (WEEK 16):

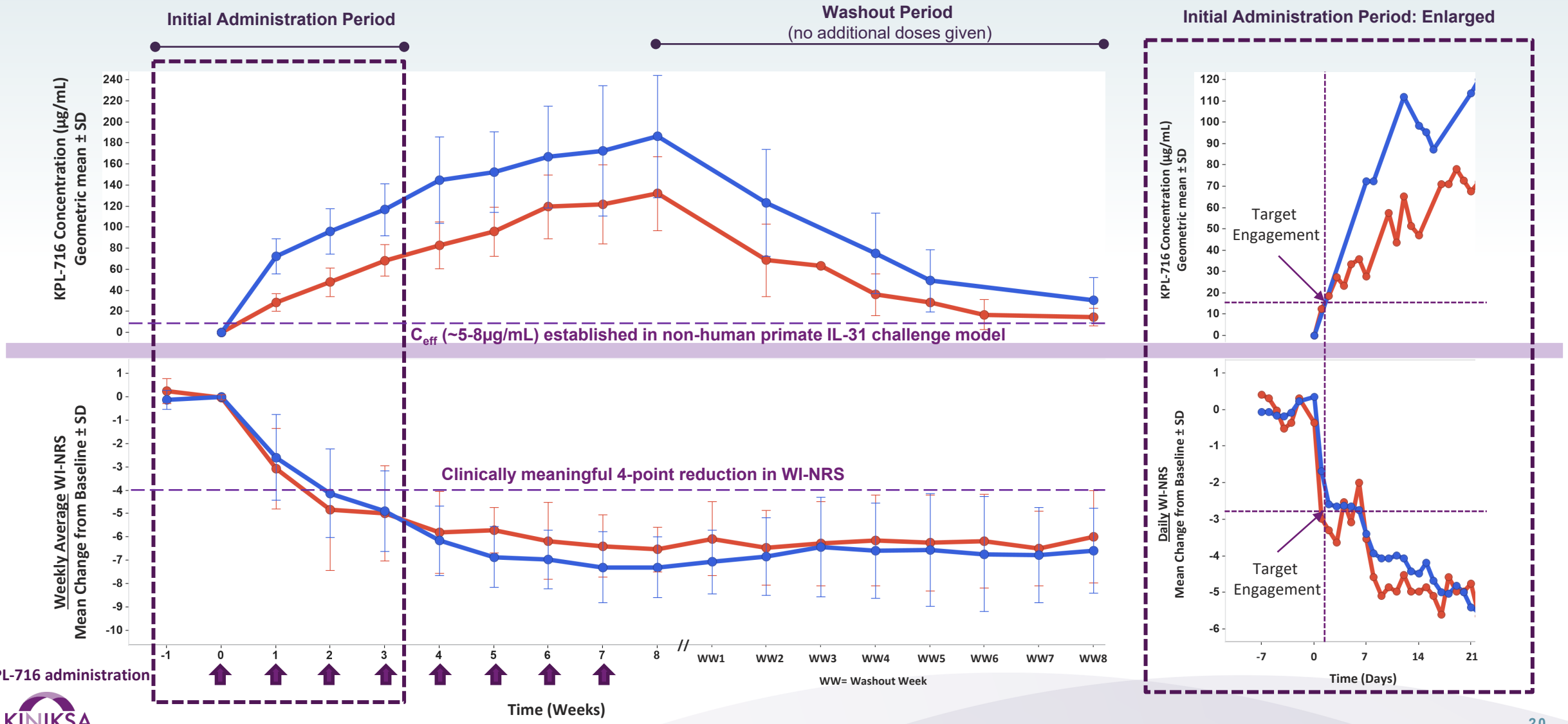
- Proportion of patients achieving a score of 0 or 1 in PN-IGA at week 16
- Proportion of subjects achieving a ≥4-point reduction in weekly average WI-NRS from baseline

WI-NRS = Worst-Itch Numeric Rating Scale; PN-IGA = prurigo nodularis-investigator's global assessment

Data expected in 2H 2022

Vixarelimab Demonstrated Target Engagement at Serum Concentration <15µg/mL

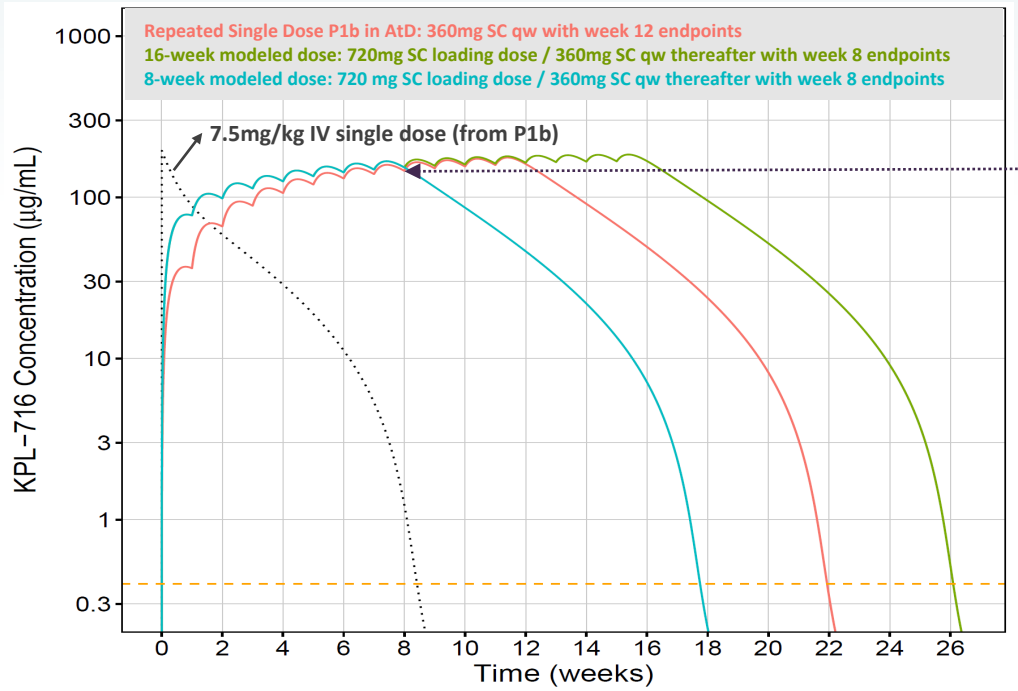
Atopic dermatitis and prurigo nodularis clinical studies: onset of action and washout



Unpublished internal Kiniksa data

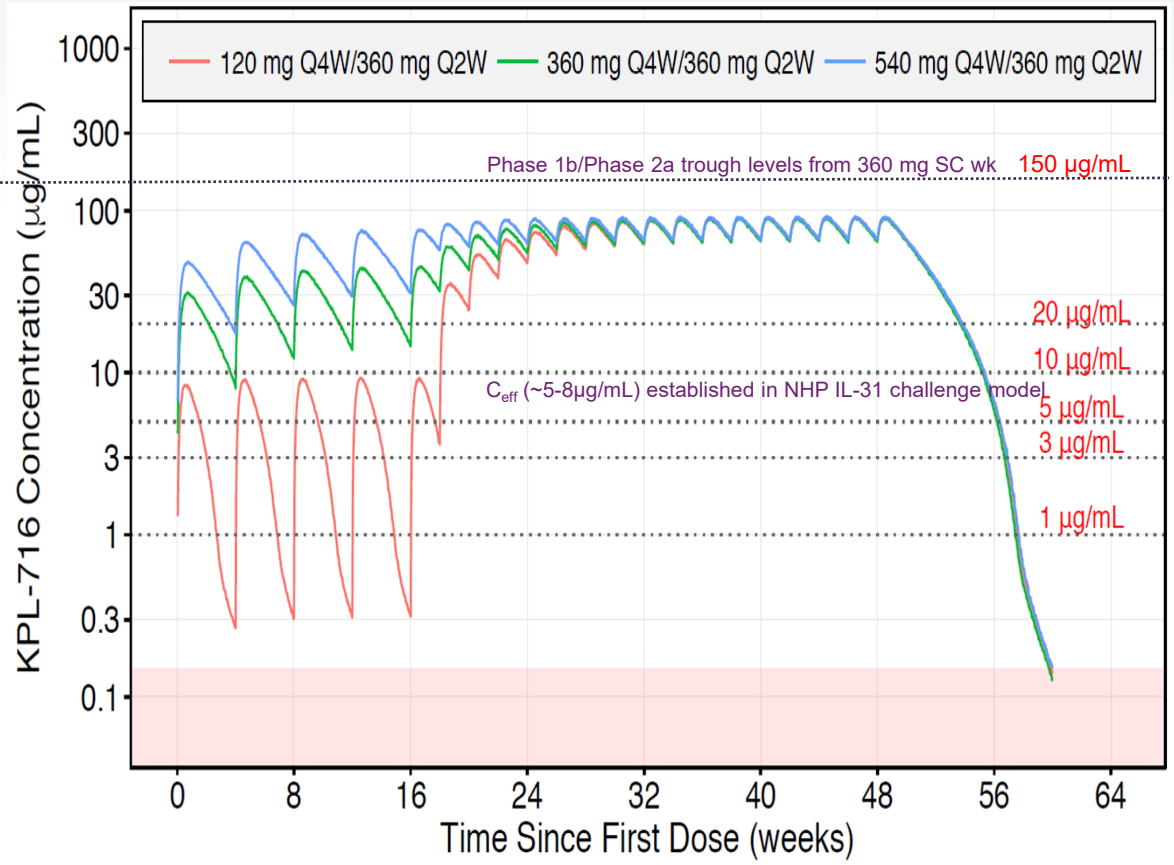
Vixarelimab Pharmacokinetic Modeling

Phase 1b data used to build predictive PK/dosing model for multiple-dose studies (RSD, PN, Chronic Pruritic Diseases)



Note: Model based upon Absolute Bioavailability of 65% at the 360 mg SC dose

Dose-ranging Phase 2b study pharmacokinetic simulation



Vixarelimab has Potential to Deliver a Differentiated Profile Based on its Mechanistic Targets, Dosing and Presentation

PRODUCT	MECHANISM	MAGNITUDE OF ITCH RESPONSE AT STUDY END	SPEED OF ITCH RESPONSE	NODULE RESOLUTION AT WEEK 8	SPEED OF NODULE RESOLUTION	POTENTIAL DOSING AND ADMINISTRATION	PRESENTATION
VIXARELIMAB	IL-31 & OSM Inhibitor[1]	+++	+++	+++	+++	Subcutaneous Once Monthly[5]	APFS
NEMOLIZUMAB[2]	IL-31 Inhibitor	+++	+++	++	++	Subcutaneous Once Monthly	Vials for Reconstitution
DUPILUMAB[3]	IL-4 & IL-13 inhibitor	++	+	+	+	Subcutaneous Every 2 Weeks	APFS & Pre-filled Pen
NALBUPHINE ER[4]	mu opioid and kappa opioid antagonist	+	+	+	+	Oral Twice Daily	Tablet

KINIKSA

Key: '+' designations are imputed from public data
APFS = Accessorized Pre-Filled Syringe
1) By binding to OSMRβ vixarelimab inhibits signaling through the IL-31 receptor and the Type II OSM receptor; 2) https://www.sanofi.com/-/media/Project/One-Sanofi-Web/Websites/Global/Sanofi-COM/Home/media-room/press-releases/2021/2021-10-22-07-00-00-2318876-en.pdf; 3) N Engl J Med 2020; 382:706-716 DOI: 10.1056/NEJMoa1908316; 4) https://www.sec.gov/Archives/edgar/data/1563880/000156459021015506/trvi-10k_20201231.htm; 5) Patients in the Phase 2a trial of vixarelimab recieved a loading dose of vixarelimab or placebo followed by vixarelimab or placebo weekly. The current Phase 2b trial is evaluating vixarelimab across a range of once-monthly dosing regimens.

KPL-404

MONOCLONAL ANTIBODY INHIBITOR SIGNALING BETWEEN CD40 AND CD154

DISEASE AREA: Rheumatoid Arthritis; a chronic inflammatory disorder affecting many joints; External proof-of-concept previously established in broad range of autoimmune diseases: Sjogren's disease, systemic lupus, solid organ transplant and Graves' disease[1]

SCIENTIFIC RATIONALE[2,3]: Attractive target for blocking T-cell dependent, B-cell–mediated autoimmunity

STATUS: Phase 1 single-ascending-dose study in healthy volunteers completed and supports further development in patients with optionality for testing SC and/or IV dosing

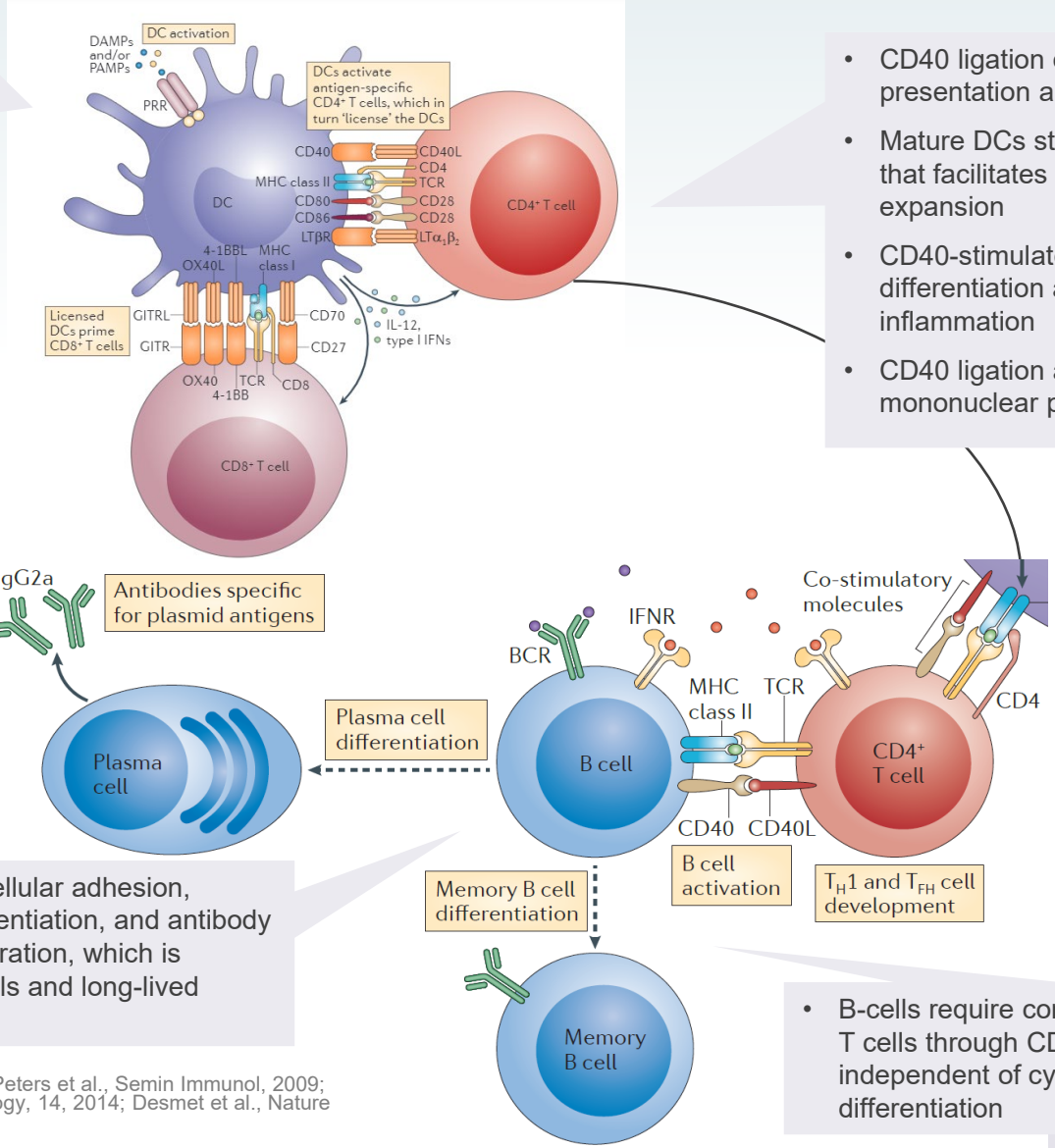
ECONOMICS: Negligible clinical and regulatory milestones and royalty on annual net sales

RIGHTS: Worldwide

1) Poster presentation at the Keystone Symposia: Antibodies as Drugs: New Horizons in the Therapeutic Use of Engineered Antibodies: KPL-404, a CD40 antagonist, blocked antigen-specific antibody responses in an in vivo NHP model and demonstrated strong PK/PD correlation; 2) Elgueta, et al. Immunol Rev 2009, 229 (1), 152-172; 3) Peters, et al. Semin Immunol 2009, 21 (5) 293-300; RO = receptor occupancy; TDAR = T-cell Dependent Antibody Response

CD40/CD154 is an Essential Immune Pathway for T-Cell Priming and T-Cell Dependent B-Cell Responses

- CD40 is expressed on the surface of dendritic cells, B-cells, antigen-presenting cells and non-immune cell types
- Its ligand, CD40L (CD154), is expressed by activated T-cells, platelets, and other cell types



- CD40 ligation on DCs induces cell maturation by promoting antigen presentation and enhancing their costimulatory activity
- Mature DCs stimulate activated T-cells to increase IL-2 production that facilitates T-helper cells (Th) and cytolytic T-Lymphocyte (CTL) expansion
- CD40-stimulated DCs also secrete cytokines favoring Th1 cell differentiation and promoting Th cell migration to sites of inflammation
- CD40 ligation also provides a pro-inflammatory signal within the mononuclear phagocyte system

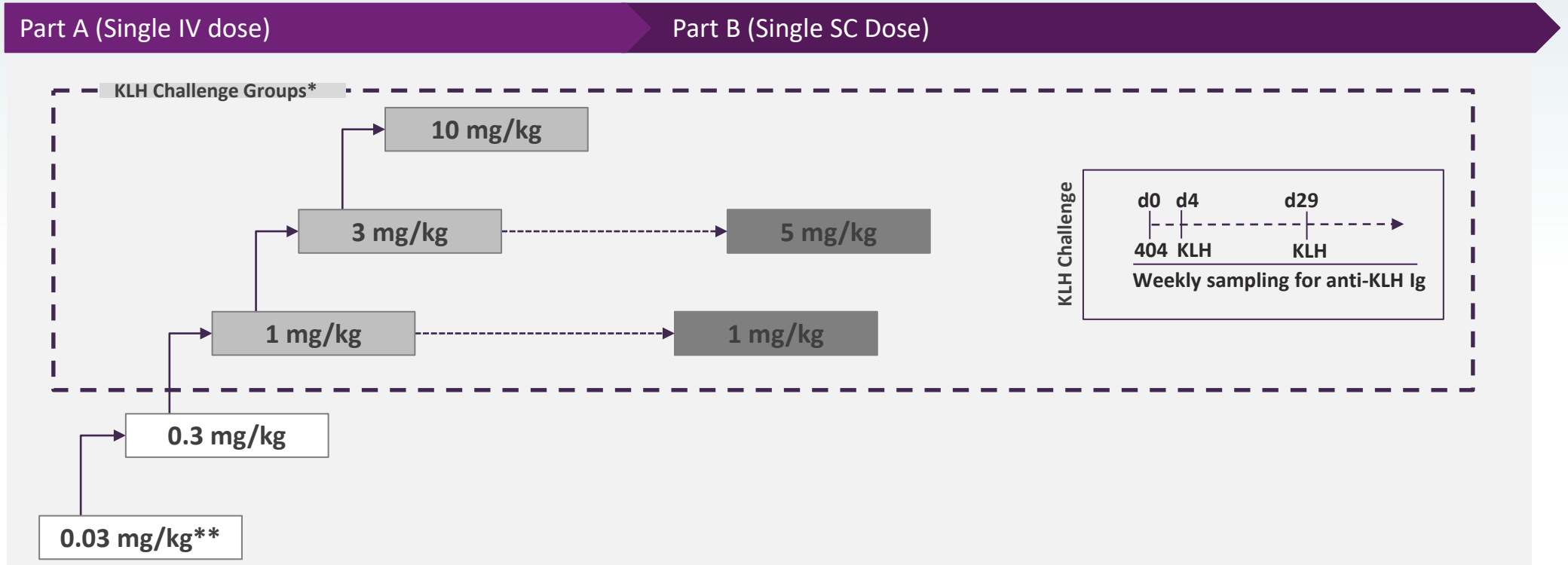
- Humoral immunity is dependent on a thriving B cell population and activation by Th cells; blockade of CD40/CD40L interaction has been shown to completely ablate primary and secondary TDAR response

- CD40 engagement triggers B-cell intercellular adhesion, sustained proliferation, expansion, differentiation, and antibody isotype switching leading to affinity maturation, which is essential for generation of memory B cells and long-lived plasma cells

- B-cells require contact-dependent stimulus from T cells through CD40/CD40L interaction independent of cytokines to trigger growth and differentiation

Sources: Elgueta et al., Immunol Rev, 2009; Peters et al., Semin Immunol, 2009; Kambayashi et al., Nature Reviews: Immunology, 14, 2014; Desmet et al., Nature Reviews: Immunology, 12, 2012

KPL-404 Single-Ascending-Dose Phase 1 Study



- **Primary endpoints:** Safety and Tolerability
- **Secondary endpoints:** PK and ADA / CD40 RO in blood / Serum anti-KLH Ig levels
- **Exploratory endpoints:** Serum CXCL13 levels

Notes: Unless otherwise noted dose groups included 6 active/2 placebo subjects; *1° KLH challenge for all SAD dose groups except 0.03 and 0.3 mg/kg, 2° KLH re-challenge only in 1, 3, and 10 mg/kg IV; ** Cohort included 2 active and 2 placebo subjects

SAD = single-ascending-dose; TDAR = T-cell dependent antibody response; KLH = keyhole limpet hemocyanin; RO = receptor occupancy; ADA = anti-drug antibodies

Final Data from KPL-404 Single-Ascending-Dose Phase 1 Study

The randomized, double-blind, placebo-controlled first-in-human (FIH) study is designed to investigate the safety, tolerability, PK and PD properties of single-ascending intravenous (IV) and subcutaneous (SC) doses of KPL-404 in healthy subjects.

- 2 single-ascending-dose arms (SAD):
  - Single-dose KPL-404 0.03 mg/kg, 0.3 mg/kg, 1 mg/kg, 3 mg/kg or 10 mg/kg IV and
  - Single-dose KPL-404 1 mg/kg or 5 mg/kg SC

Primary Endpoint: Safety and tolerability of single ascending intravenous (IV) and subcutaneous (SC) doses of KPL-404 in healthy subjects.

- KLH challenge in 1 mg/kg, 3 mg/kg, and 10 mg/kg IV and 1 mg/kg and 5 mg/kg SC cohort

Secondary Endpoints: Pharmacokinetics and anti-drug antibody response following single IV and SC doses of KPL-404 in healthy subjects, serum anti- keyhole limpet hemocyanin (KLH) IgG levels

Exploratory Endpoint: Receptor occupancy of KPL-404 on CD40 in healthy subjects

Preliminary Data:

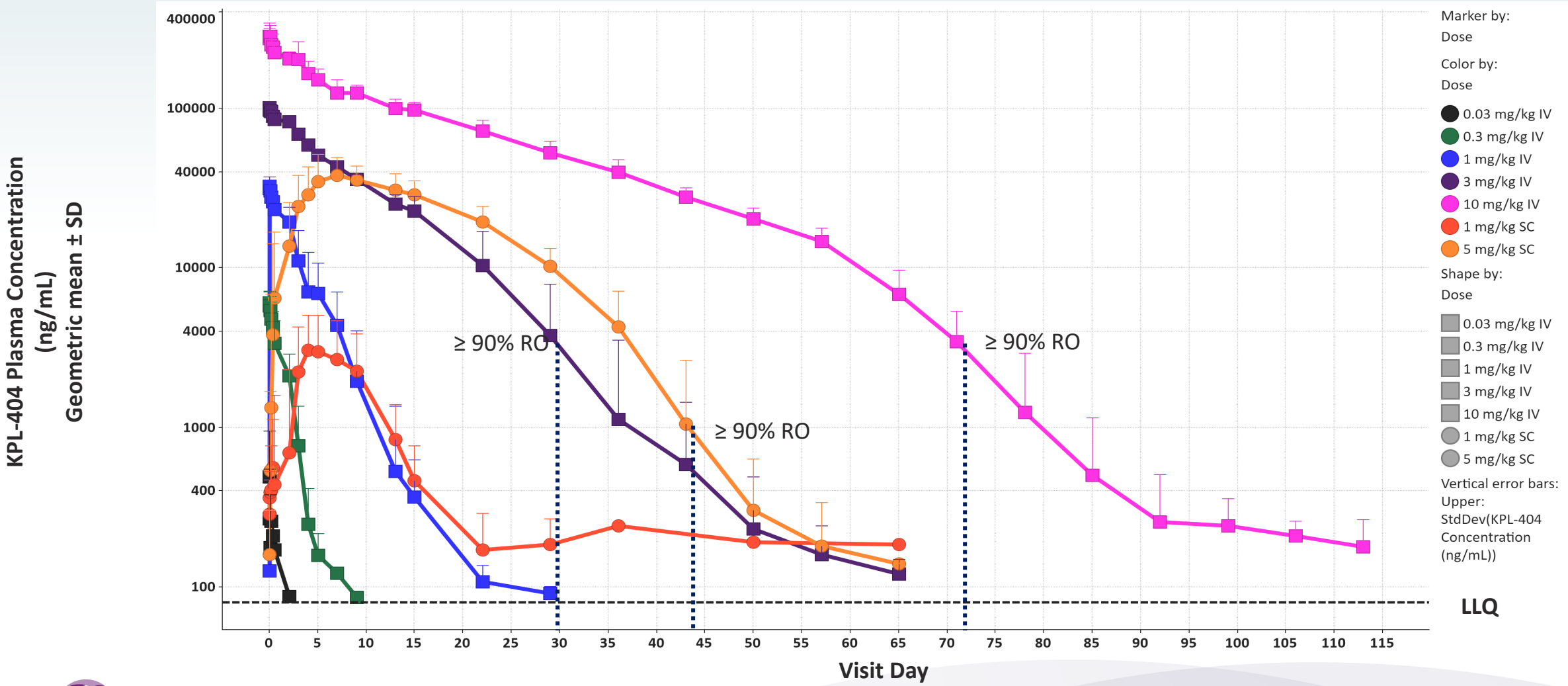
- All dose escalations occurred as per protocol with no dose limiting safety findings. All 6 subjects dosed with KPL-404 3 mg/kg IV showed full receptor occupancy through Day 29, which corresponded with complete suppression of the T-cell Dependent Antibody Response (TDAR) to KLH through Day 29. Consistent dose relatedness was shown in the lower dose level cohorts, including 0.03 mg/kg, 0.3 mg/kg, 1 mg/kg IV and 1 mg/kg SC. Data collection for the higher dose level cohorts, 10 mg/kg IV and 5 mg/kg SC, is ongoing.
- The data to-date support subsequent study in patients, including potential IV or SC monthly administration.

Final Data:

- KPL-404 showed dose-dependent increases in concentration across cohorts. All dose escalations occurred as per protocol with no dose-limiting safety findings.
- KPL-404 was well-tolerated, and there were no serious adverse events.
- Subjects dosed with KPL-404 10 mg/kg IV showed full RO through at least Day 71 and complete suppression of TDAR after KLH challenge and re-challenge through at least Day 57.
- Subjects dosed with KPL-404 5 mg/kg SC showed full RO through Day 43 and suppression of TDAR after KLH challenge through at least Day 29. These data confirm and extend previously-reported 3 mg/kg IV cohort data, in which RO and suppression of TDAR after KLH challenge were demonstrated through Day 29.
- The 3 mg/kg IV dose level had previously demonstrated complete suppression of memory TDAR response to a re-challenge on Day 29.
- Anti-drug antibodies to KPL-404 were suppressed for at least 57 days at 10 mg/kg IV; the suppression of antibody responses to the drug itself is an independent indicator of target engagement and pharmacodynamic effect

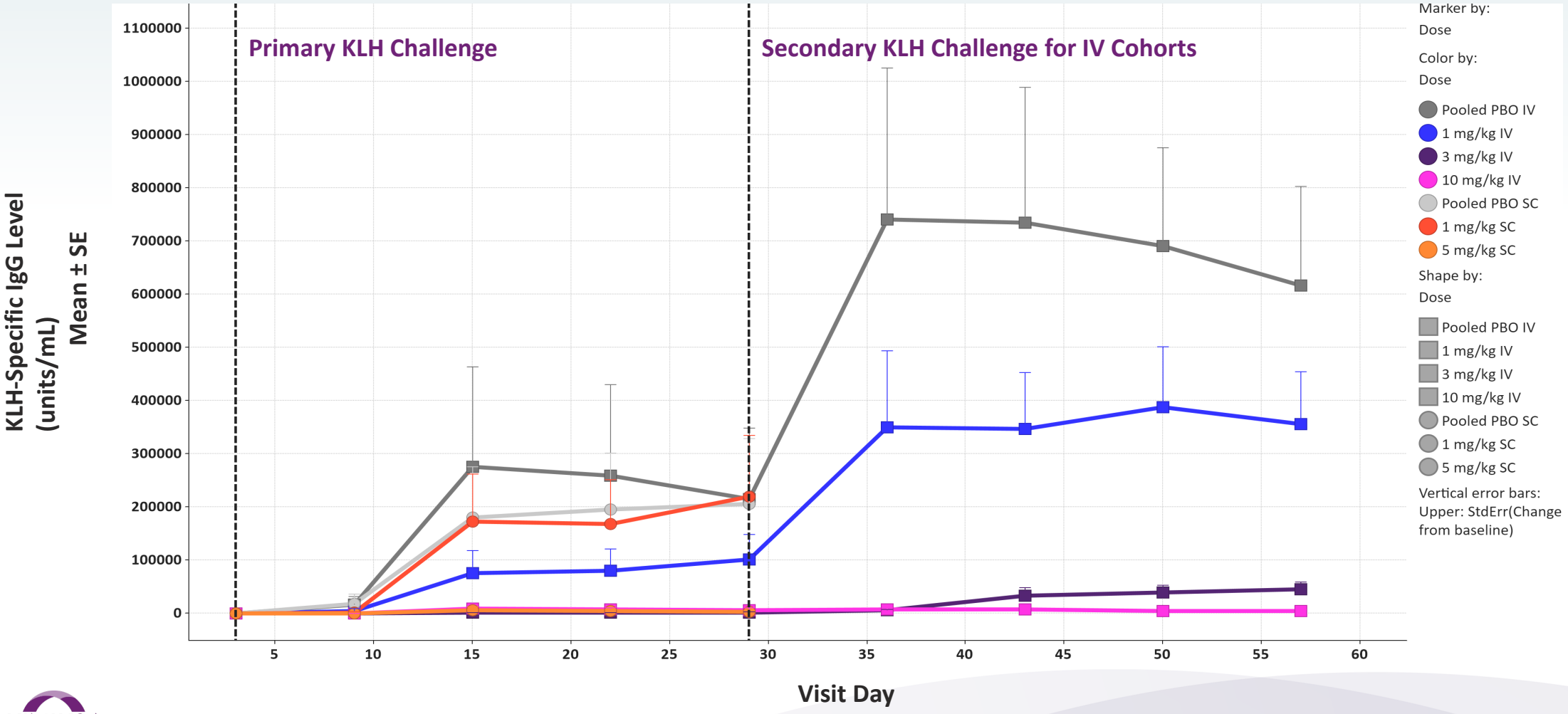
Final Data from KPL-404 Single-Ascending-Dose Phase 1 Study

Pharmacokinetic profiles for KPL-404



Final Data from KPL-404 Single-Ascending-Dose Phase 1 Study

T-Cell Dependent Antibody Response (TDAR) for KLH antigen challenge



KLH = keyhole limpet hemocyanin

KPL-404 Phase 2 Trial in Rheumatoid Arthritis Ongoing

12-week study designed to provide PK data and early signal of efficacy with chronic administration, and optionality to evaluate KPL-404 across a range of other autoimmune diseases

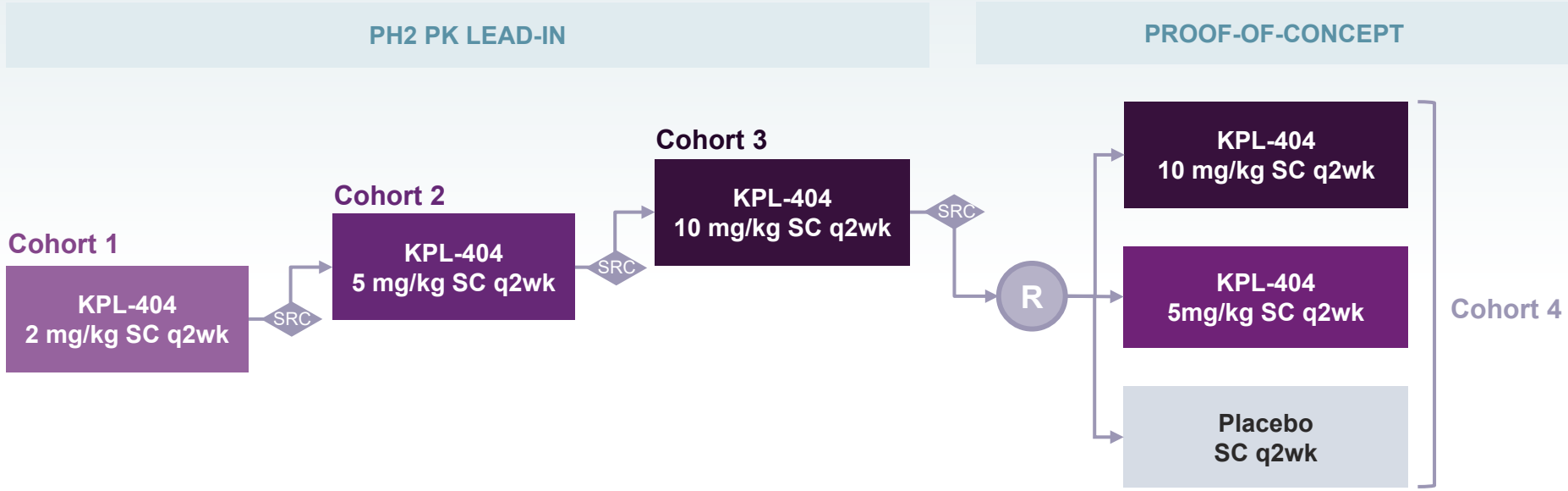
Cohorts 1 through 3 will each sequentially randomize eight patients
Cohort 4 will randomize up to 60 patients

PATIENT POPULATION :

- Active RA who have an inadequate response to or are intolerant to a Janus kinase inhibitor (JAKi) or at least one biologic disease-modifying anti-rheumatic drug (bDMARD). Subjects who have failed both bDMARD and JAKi are excluded from the study.

DISEASE CRITERIA:

- Six or more swollen joints and ≥ 6 tender joints at screening and baseline line visits; levels of high sensitivity C-reactive protein ≥ 5 mg/L; seropositivity for serum RF and/or ACPA at screening.



COHORTS 1-3

- Each cohort will sequentially randomize 8 patients
- Primary Endpoints:
  - Incidence of treatment-emergent adverse events (TEAEs)
  - Pharmacokinetics (C_{max}, $AUC_{(0-t)}$)
- Secondary Endpoint:
  - Change from baseline in DAS28-CRP at Week 12

COHORT 4

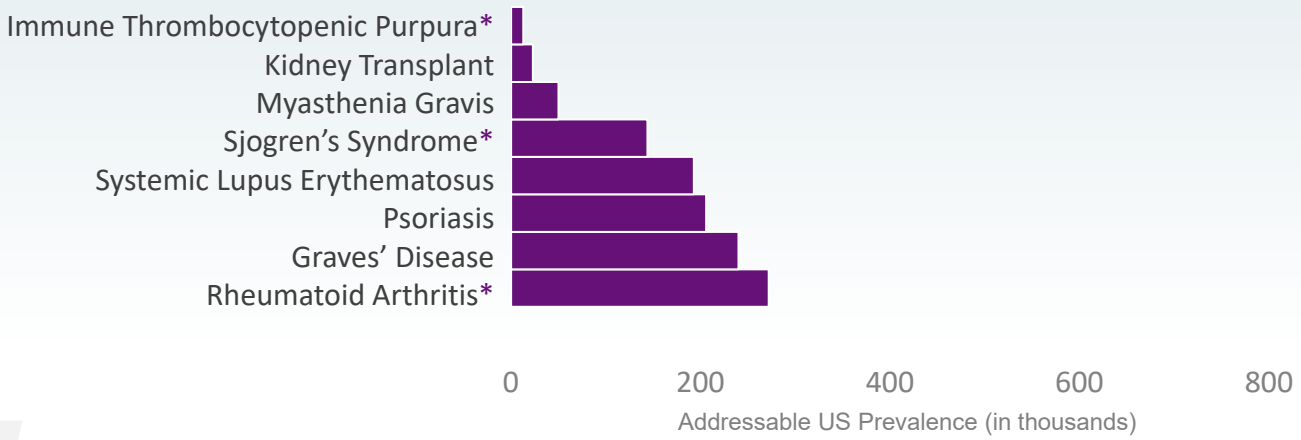
- Cohort 4 will randomize up to 60 patients
- Primary Endpoint:
  - Change from baseline in DAS28-CRP at Week 12
- Secondary Endpoints :
  - Incidence of treatment-emergent adverse events (TEAEs)
  - Pharmacokinetics (C_{max}, $AUC_{(0-t)}$)

Objectives: Evaluate safety, efficacy, and PD compared with placebo across the estimated therapeutic range and to characterize PK across varying dose levels of KPL-404. The protocol allows for additional cohorts to be initiated at a dose & regimen to be determined.

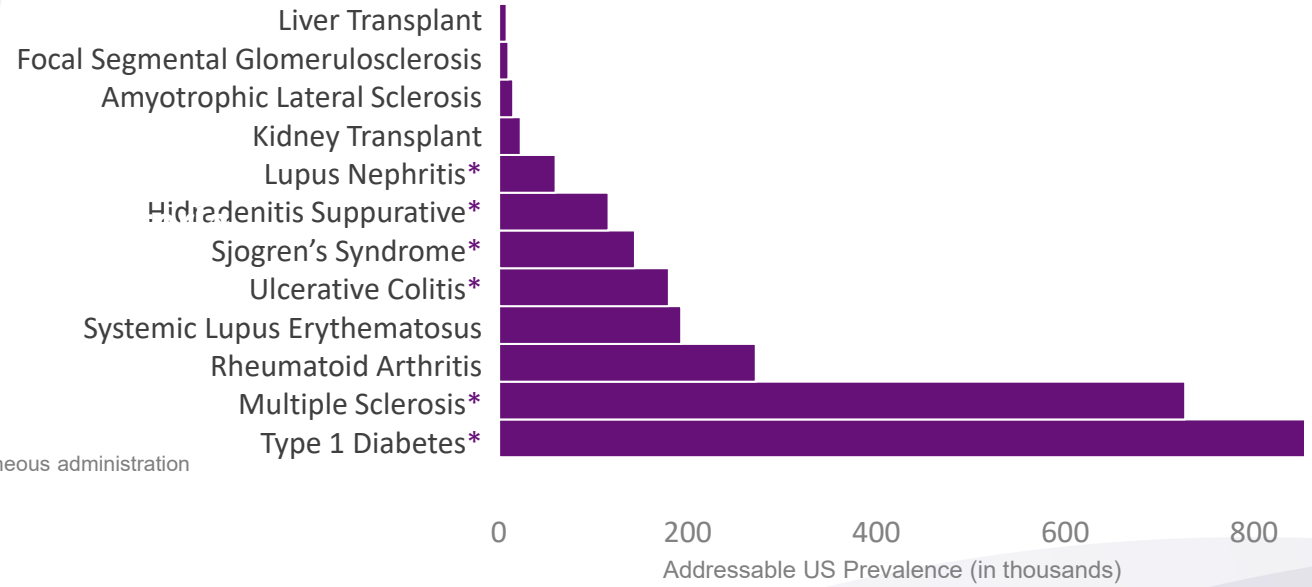
SC = subcutaneous; q2wk = every other week; AUC = Area Under the Curve; RF = Rheumatoid Factor; ACPA = anti-citrullinated protein antibodies, PD = Pharmacodynamics; PK = Pharmacokinetics; R = Randomization; SRC = Safety Review Committee

Potential for Evaluation of KPL-404 in a Broad Range of Autoimmune Diseases

Indications with Published Data



Indications with Pending Data & Trials Ongoing



*Indications evaluated with subcutaneous administration
1) With the CD40 mechanism

INDICATION SELECTION CRITERIA

- Robust Data or proof-of-concept supporting mechanism
- Differentiation vs. Competitors
- Commercial Attractiveness

Sources: 2019 numbers: https://unos.org/data/transplant-trends/; Hunter et al. Prevalence of rheumatoid arthritis in the United States adult population in healthcare claims databases, 2004-2014; Rheumatol Int. 2017 Sep;37(9):1551-1557; Overall Prevalence: Maciel et al, Arthritis Care Res (Hoboken) 2017; Qin et al, Ann Rheum Dis 2015; UpToDate; Baldini et al. Prevalence of Severe Extra-Glandular Manifestations in a Large Cohort of Patients with Primary Sjögren's Syndrome; 2012 ACR/ARHP Annual Meeting, ABSTRACT NUMBER: 2185; Wallin et al. The prevalence of MS in the United States A population-based estimate using health claims data, Neurology, March 5, 2019; Somers et al.; Prevalence of Systemic Lupus Erythematosus in the United States: Preliminary Estimates from a Meta-Analysis of the Centers for Disease Control and Prevention Lupus Registries; 2019 ACR/ARP Annual Meeting ABSTRACT NUMBER: 2886; Garg et al. JAMA Dermatol. 2017;153(8):760-764. doi:10.1001/jamadermatol.2017.0201 Sex- and Age-Adjusted Population Analysis of Prevalence Estimates for Hidradenitis Suppurativa in the United States; MayoClinic.org; Yale J Biol Med. 2013 Jun; 86(2): 255–260. N Engl J Med 2016;375:2570-81; https://www.diabetesresearch.org/diabetes-statistics; Nephcure.org; Kitiyakara C, Eggers P, Kopp JB. Twenty-one-year trend in ESRD due to focal segmental glomerulosclerosis in the United States. Am J Kidney Dis. 2004 Nov;44(5):815-25; Rachakonda et al. J Am Acad Dermatol . 2014 Mar;70(3):512-6. doi: 10.1016/j.jaad.2013.11.013. Epub 2014 Jan 2. Psoriasis prevalence among adults in the United States; Yeung et al. Psoriasis severity and the prevalence of major medical co-morbidities: a population-based study; JAMA Dermatol. 2013 Oct 1; 149(10): 1173–1179; Hoover etal. Kidney Int. 2016 Sep; 90(3): 487–492. Insights into the Epidemiology and Management of Lupus Nephritis from the U.S. Rheumatologist's Perspective.

Financials
Fourth Quarter and Full-Year 2021

Fourth Quarter and Full-Year 2021 Financial Results

Income Statement	Three Months Ended December 31,		Year Ended December 31,	
	2021	2020	2021	2020
Total Revenue	$18.7M	N/A	$38.5M	N/A
Cost of Goods Sold	$3.9M	N/A	$9.1M	N/A
Collaboration Expenses	$0.8M	N/A	$0.8M	N/A
Research and Development Expenses	$27.4M	$37.4M	$99.3M	$112.0M
Selling, General and Administrative Expenses	$22.7M	$15.5M	$85.9M	$45.3M
Total Operating Expenses	$54.9M	$52.9M	$195.2M	$157.4M
Net Loss	($36.3M)	($53.7M)	($157.9M)	($161.4M)

Balance Sheet	December 31, 2021	December 31, 2020
Cash, Cash Equivalents and Short-term Investments	$182.2M	$323.5M

Q4 2021 Cash Reserves Expected to Fund Current Operating Plan into 2024

KINIKSA

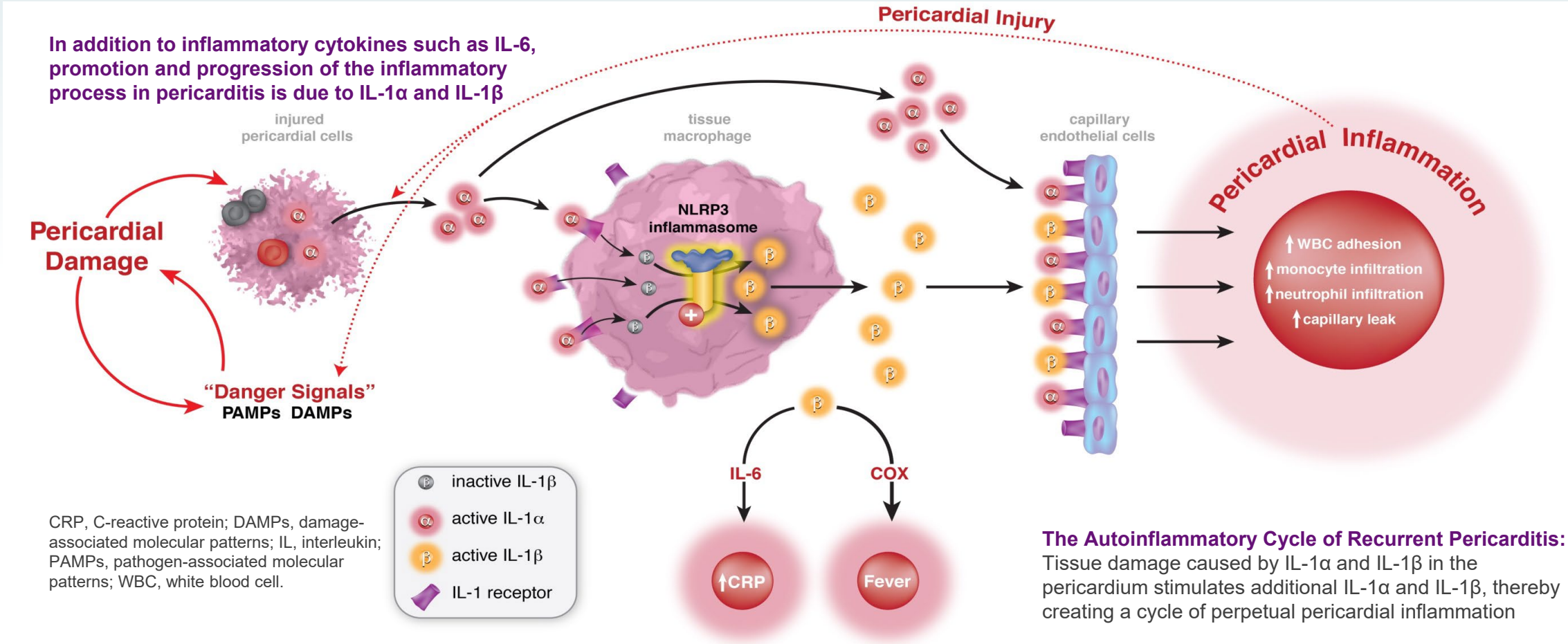
Fourth Quarter 2021 Collaboration Expense[1]

ARCALYST Net Sales (RP + CAPS + DIRA)	**$18.7M**	*Recognized as revenue on Kiniksa's income statement*
Cost of Goods Sold Related to Product Sales	($3.6M)	*Costs of product purchased as well as relevant overhead; amortization of ARCALYST commercial milestone excluded*
Commercial, Marketing, Regulatory and Other Expenses	($13.4M)	*100% of field force expense as well as commercial and marketing expenses subject to specified limits*
ARCALYST Operating Profit	**$1.7M**	
Collaboration Expense	**$0.8M**	*50% of ARCALYST operating profit booked as a separate line item within operating expenses*

1) Subject to the terms of the definitive agreements between Kiniksa and Regeneron; RP = Recurrent Pericarditis, CAPS = Cryopyrin-Associated Periodic Syndromes, DIRA = Deficiency of Interleukin-1 Receptor Agonist

Appendix
ARCALYST (rilonacept)

Role of IL-1α and IL-1β in the Autoinflammatory Cycle of Recurrent Pericarditis



CRP, C-reactive protein; DAMPs, damage-associated molecular patterns; IL, interleukin; PAMPs, pathogen-associated molecular patterns; WBC, white blood cell.

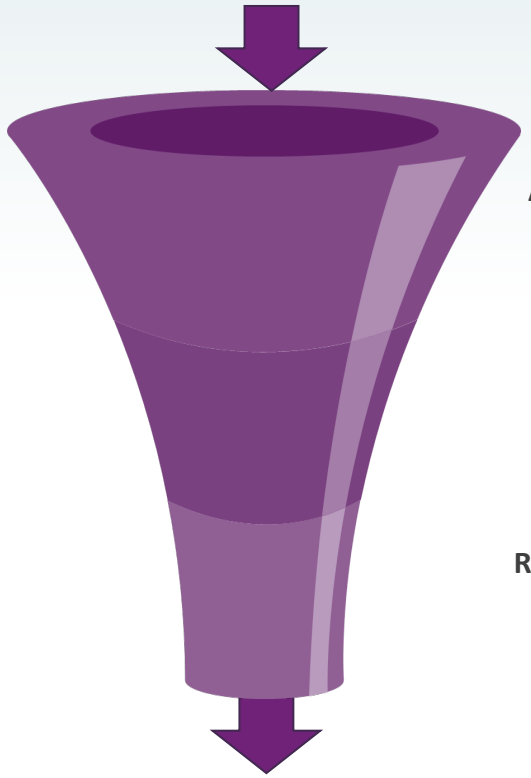
The Autoinflammatory Cycle of Recurrent Pericarditis: Tissue damage caused by IL-1α and IL-1β in the pericardium stimulates additional IL-1α and IL-1β, thereby creating a cycle of perpetual pericardial inflammation

Brucato A, et al. Int Emerg Med 2018 https://doi.org/10.1007/s11739-018-1907-x
Dinarello CA, et al. Nat Rev Drug Discov 2012;11:633-652

KINIKSA

Addressable U.S. Opportunity of ARCALYST Estimated to be ~14K Patients

~7K new patients with multiple recurrences enter target pool annually



Annual pericarditis incidence ~117K

1st recurrence ~26K

Repeat Recurrences

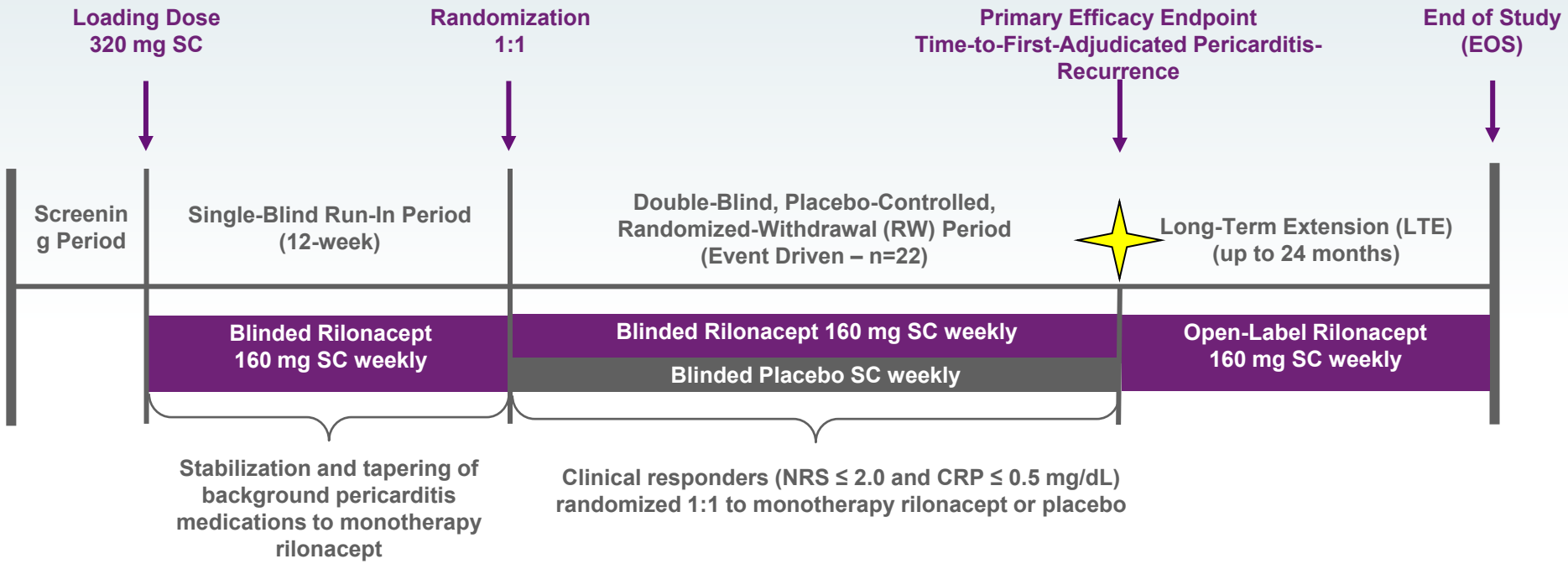
- **~7K new patients with repeat recurrences annually**
- **~14K total patients with repeat recurrences annually at any point**

Year	-4	-3	-2	-1	0
Incident case of acute pericarditis (1st episode)[1]	117K	117K	117K	117K	117K
Incidence of initial RP patients (1st recurrence)[2]	26K	26K	26K	26K	26K
Ongoing recurrent from year-1[3]					7K
Ongoing recurrent from year-2[3]				7K	3.5K
Ongoing recurrent from year-3[3]			7K	3.5K	1.8K
Ongoing recurrent from year-4[3]		7K	3.5K	1.8K	0.9K
Ongoing recurrent from year-5[3]	7K	3.5K	1.8K	0.9K	0.5K
Ongoing recurrent from year-6[3]	3.5K	1.8K	0.9K	0.5K	0.2K
Ongoing recurrent from year-7[3]	1.8K	0.9K	0.5K	0.2K	0.1k

Addressable Opportunity in U.S.

1: Prevalence estimate from Imazio, et al. (2008); includes all etiologies (~80% idiopathic)
2: Mid point of 15-30% of initial recurrence rate published in ESC Guidelines given higher colchicine use today
3: Estimate for recurrence rate of subsequent recurrences from ESC Guidelines and Claims Analysis

Pivotal Phase 3 Trial of ARCALYST in Recurrent Pericarditis



Inclusion Criteria:

- All etiologies except infection and malignancy
- Present at screening with at least a third pericarditis episode, defined as at least 1 day with **NRS pain of ≥ 4** and **CRP value ≥ 1 mg/dL** within the 7-day period prior to first study drug administration
- Concomitant NSAIDs and/or colchicine and/or oral corticosteroid treatment in any combination

Primary Efficacy Endpoint :

- Time-to-first-adjudicated pericarditis-recurrence in the RW period

Major Secondary Efficacy Endpoints (16-weeks):

- Proportion of subjects who maintained Clinical Response
- Percentage of days with no or minimal pain
- Proportion of subjects with absent or minimal pericarditis symptoms

CEC Adjudication Criteria:

- Typical pericarditis pain (≥ 1 pain **NRS recording ≥4**) AND elevated **CRP (≥1.0 mg/dL)**, same day or ≤ 7 days
- Typical pericarditis pain (≥ 1 pain **NRS recording ≥4**) AND abnormal **CRP (>0.5 mg/dL),** same day or ≤ 7 days AND ≥ **1 supportive evidence** of pericarditis
- Typical pericarditis pain (BUT pain **NRS recording ≤ 4**) AND elevated **CRP (≥1.0 mg/dL)**, AND ≥ **1 supportive evidence** of pericarditis

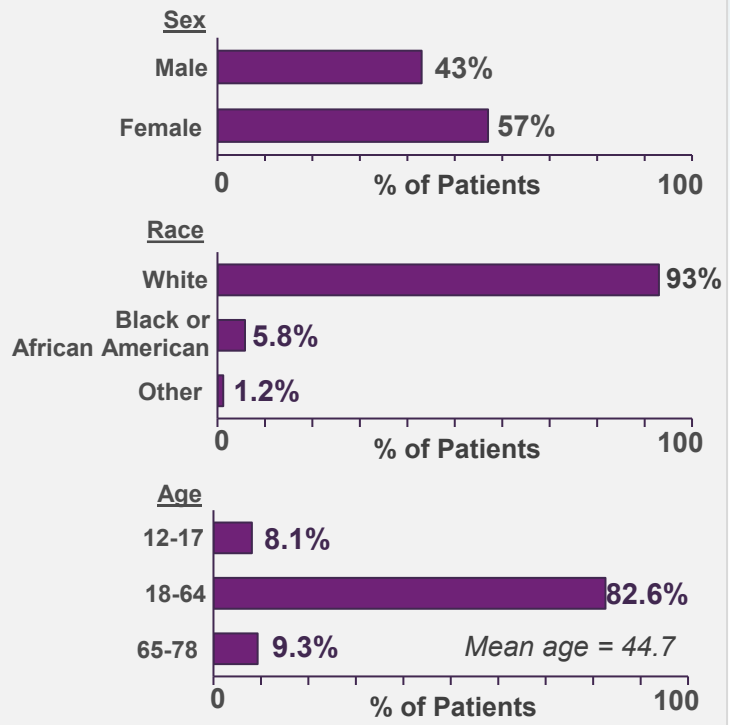
CRP = C-reactive protein; NRS = Numerical Rating Scale; NSAIDs = nonsteroidal anti-inflammatory drugs; CEC = Clinical Endpoint Committee

Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.

Baseline Demographics and Clinical Characteristics

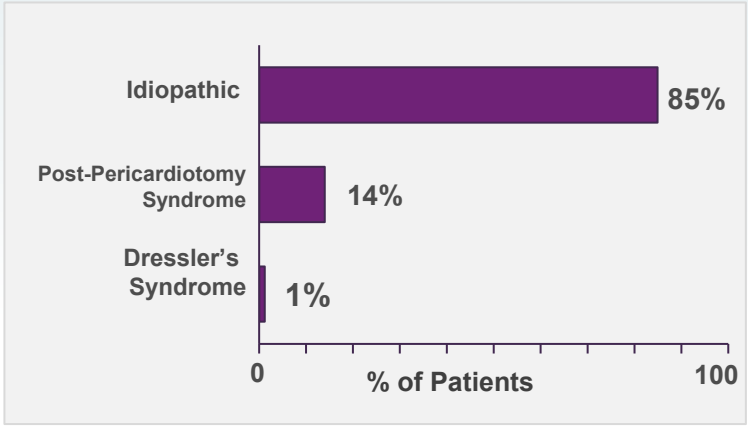
Pivotal Phase 3 Rilonacept Data

Baseline Demographics (n=86)

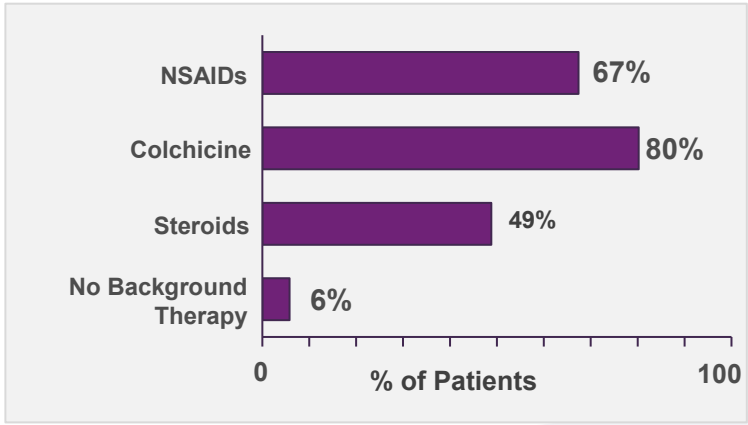


Total Number of Episodes Including Index and Qualifying Episodes	Run-in Period (n=86)
Mean	4.7

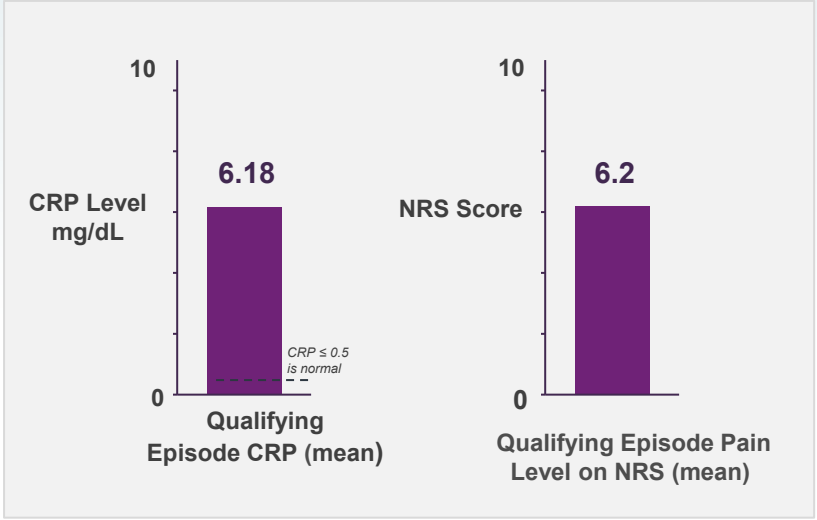
Prior Pericarditis History at Baseline (n=86)



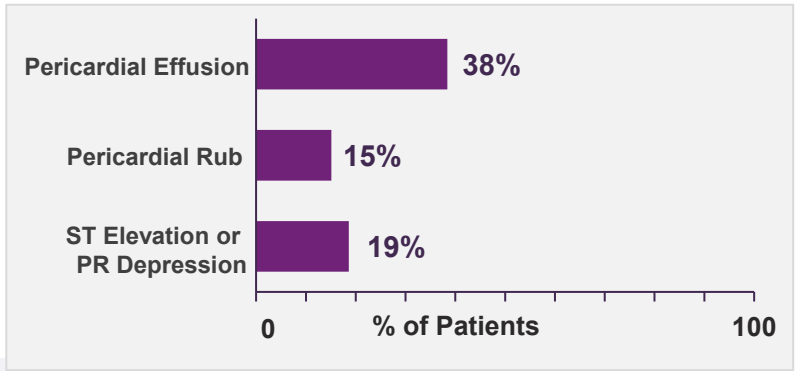
SoC Received at Qualifying Episode (n=86)



Qualifying Episode CRP & NRS (n=86)



Pericarditis Manifestations at Qualifying Episode (n=86)

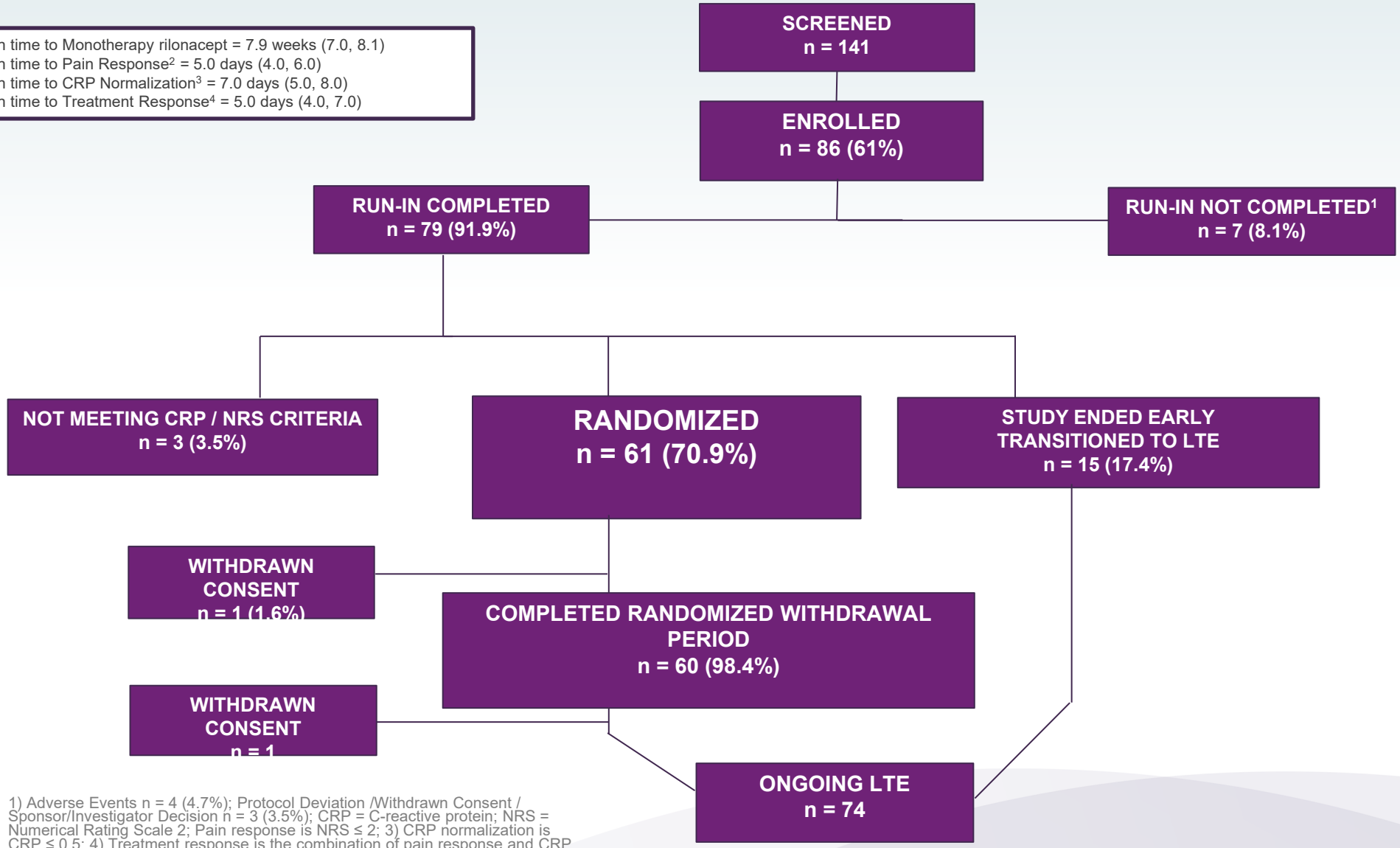


CRP = C-reactive protein; NRS = Numerical Rating Scale; SoC = Standard of Care; NSAIDs = nonsteroidal anti-inflammatory drugs

Subject Disposition

Pivotal Phase 3 Rilonacept Data

Median time to Monotherapy rilonacept = 7.9 weeks (7.0, 8.1)
Median time to Pain Response[2] = 5.0 days (4.0, 6.0)
Median time to CRP Normalization[3] = 7.0 days (5.0, 8.0)
Median time to Treatment Response[4] = 5.0 days (4.0, 7.0)



1) Adverse Events n = 4 (4.7%); Protocol Deviation /Withdrawn Consent / Sponsor/Investigator Decision n = 3 (3.5%); CRP = C-reactive protein; NRS = Numerical Rating Scale 2; Pain response is NRS ≤ 2; 3) CRP normalization is CRP ≤ 0.5; 4) Treatment response is the combination of pain response and CRP normalization

ARCALYST Initiation Resulted in Rapid Resolution of Pericarditis Episodes

Pivotal Phase 3 RHAPSODY Data

Rapid and sustained reductions in both reported pain and inflammation as early as after the first dose of ARCALYST

Median time to pain response = 5.0 days; Median time to CRP normalization = 7.0 days

Secondary endpoints that were assessed during the run-in period

5 days

Time to treatment response (median; 95% CI: 4, 7)*

97%

Treatment response* rate

7.9 weeks

Time to ARCALYST monotherapy (median; 95% CI: 7, 8)

*Time to treatment response was defined as the time from the first dose to the first day when pericardial pain was NRS ≤2 and CRP ≤0.5 mg/dL (measured within 7 days before or after the pain response). During the 12-week run-in period, 77 of 79 patients demonstrated a treatment response.

Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.
ARCALYST (rilonacept) prescribing information 2021

ARCALYST Demonstrated a Steroid-Sparing Treatment Effect

Pivotal Phase 3 RHAPSODY Data

Patients treated with ARCALYST discontinued corticosteroids

In the run-in period of the Phase 3 trial RHAPSODY, patients receiving corticosteroids at baseline were transitioned to ARCALYST monotherapy in 7.9 weeks

Each patient treated with corticosteroids at baseline achieved clinical response with ARCALYST monotherapy

- 49% (27 of 86) of patients received corticosteroids at baseline
- None of the patients treated with corticosteroids at baseline and randomized to ARCALYST monotherapy experienced a recurrence while on therapy

KINIKSA

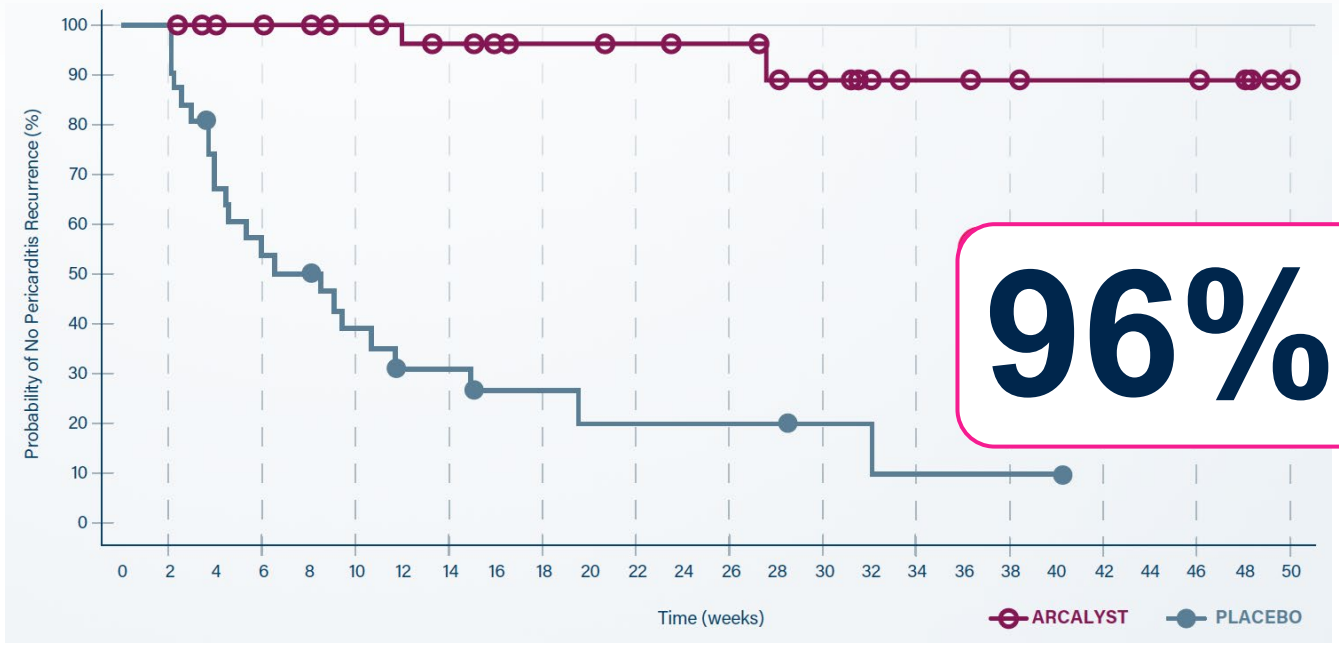
Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.
ARCALYST (rilonacept) prescribing information 2021

96% Reduction in Risk of Pericarditis Recurrence

Pivotal Phase 3 RHAPSODY Data

ARCALYST reduced the risk of pericarditis recurrence

The primary efficacy endpoint was time to first adjudicated pericarditis recurrence in the randomized withdrawal period.



The median time to recurrence on ARCALYST could not be estimated due to the low number of recurrences

- 2 of 30 of patients treated with ARCALYST had a recurrence
- The 2 pericarditis recurrences with ARCALYST occurred during temporary interruptions of 1 to 3 doses of ARCALYST

96%

reduction in the risk of recurrent pericarditis
(hazard ratio: 0.04; *p*<0.0001)

The median time to recurrence on placebo was 8.6 weeks (95% CI: 4.0, 11.7)

- 74% (23 of 31) of patients treated with placebo experienced a recurrence at the time that the event-driven portion of the trial was closed
- Consistent with the expected washout pharmacokinetics of once-weekly ARCALYST at steady state

Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.
ARCALYST (rilonacept) prescribing information 2021

92% of Trial Days of No/Minimal Pain

Pivotal Phase 3 RHAPSODY Data

Patients on ARCALYST had significantly more trial days with no/minimal pain vs placebo

Secondary efficacy endpoint was assessed during the randomized withdrawal period

92% **of days**

Patients reported no/minimal (NRS≤2) pericarditis pain

Compared with 40% of trial days in patients on placebo ($p<0.0001$) at the secondary endpoint assessed at Week 16 of the randomized withdrawal period.

At Week 16 of the randomized withdrawal period:

- A majority (81%) of patients maintained a clinical response measured at Week 16 of the randomized withdrawal period compared with 20% of patients on placebo ($p=0.0002$)

Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.
ARCALYST (rilonacept) prescribing information 2021

Most Common ARCALYST Adverse Reactions:

Injection-site reactions and upper respiratory tract infections

Adverse experiences in RHAPSODY

	RUN-IN PERIOD	RANDOMIZED-WITHDRAWAL PERIOD			TOTAL (N=86)
EVENT	Rilonacept (N=86)	Rilonacept, Including Bailout (N=30)	Placebo, Including Bailout (N=31)	Rilonacept, Before Bailout (N=30)	Placebo, Before Bailout (N=31)
			number of patients with event (percent)		
Any adverse event	69 (80)	24 (80)	22 (71)	24 (80)	13 (42)	74 (86)
Adverse events according to maximum severity†						
Mild	52 (60)	16 (53)	17 (55)	16 (53)	9 (29)	47 (55)
Moderate	15 (17)	8 (27)	5 (16)	8 (27)	4 (13)	25 (29)
Severe	2 (2)	0	0	0	0	2 (2)
Serious adverse event	1 (1)	1 (3)	3 (10)	1 (3)	1 (3)	5 (6)
Adverse event leading to death	0	0	0	0	0	0
Adverse event leading to dose interruption	0	1 (3)	0	1 (3)	0	1 (1)
Adverse event leading to discontinuation of rilonacept or placebo	4 (5)	0	0	0	0	4 (5)
Cancer‡	0	1 (3)	0	1 (3)	0	1 (1)
Injection-site reaction	28 (33)	6 (20)	2 (6)	5 (17)	0	29 (34)
Infection or infestation	14 (16)	12 (40)	7 (23)	12 (40)	3 (10)	29 (34)
Upper respiratory tract infection	12 (14)	7 (23)	2 (6)	7 (23)	0	19 (22)

*Patients with multiple events were counted once in each appropriate category

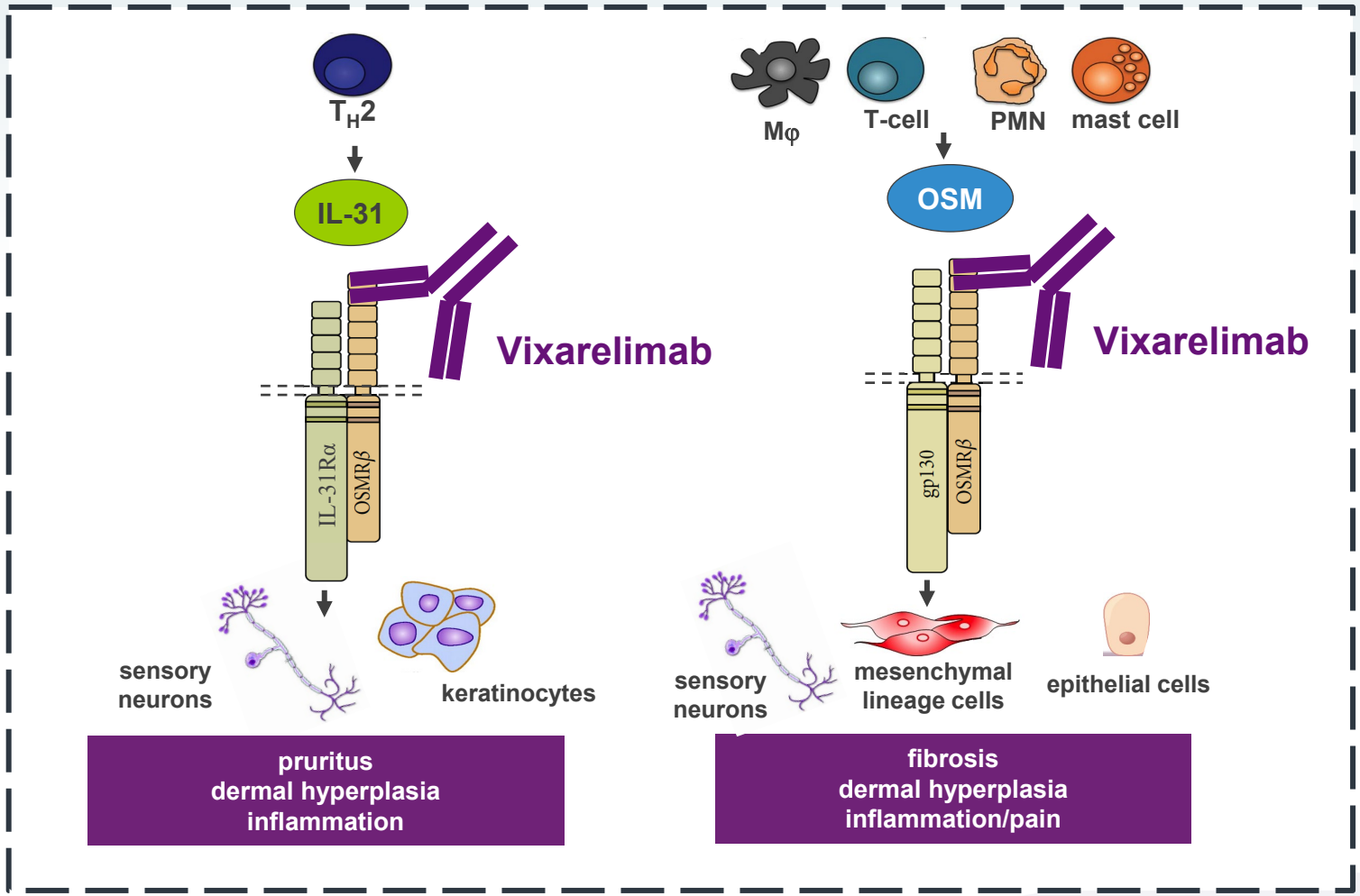
†Counted once, according to the maximum severity of the adverse event.

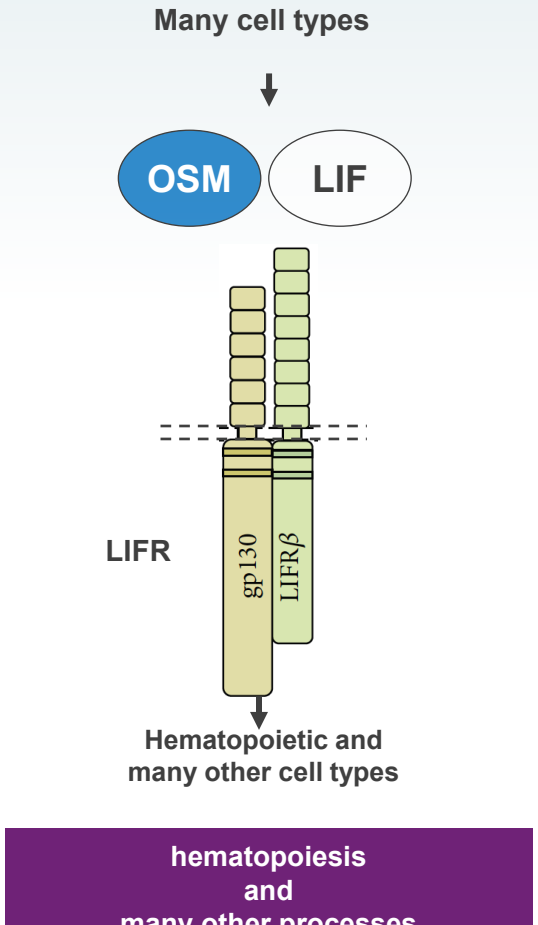
‡Cancer was an event of special interest.

1Klein AL, Imazio M, Cremer P, et al. Phase 3 trial of interleukin-1 trap rilonacept in recurrent pericarditis. N Engl J Med. 2021;384(1):31-41.

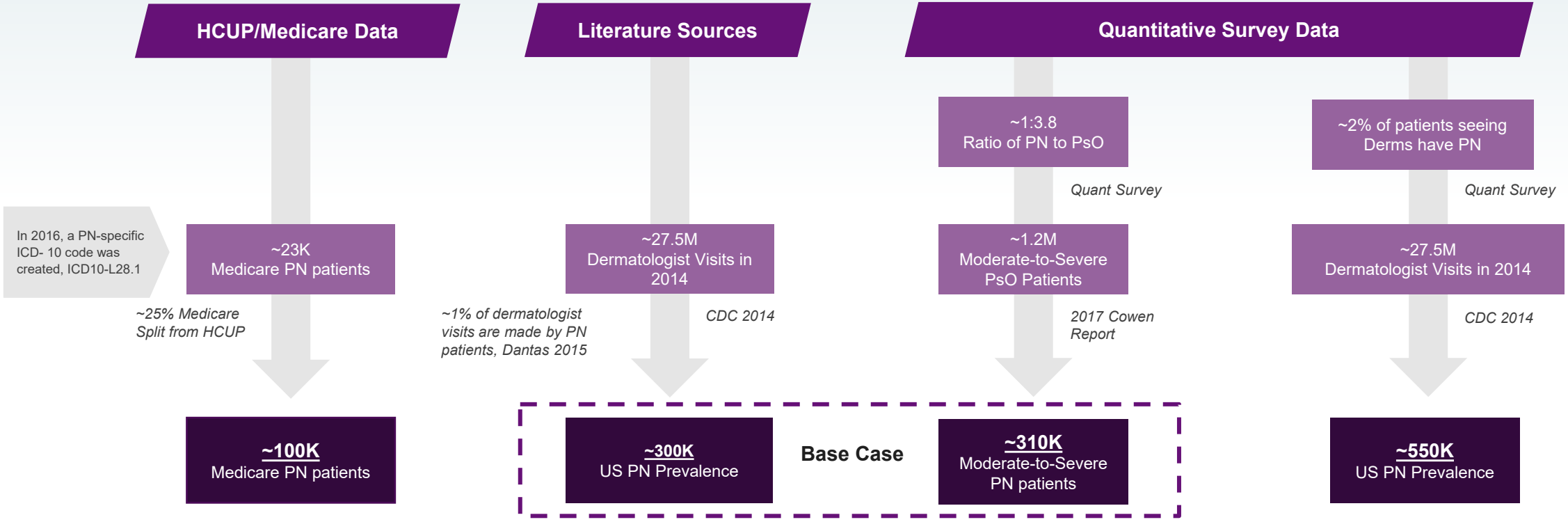
Appendix
VIXARELIMAB

Vixarelimab Inhibits IL-31 & OSM Signaling Through OSMRβ but Avoids Inhibiting Signaling Critical to Hematopoiesis Through OSM/LIFR in vitro Studies



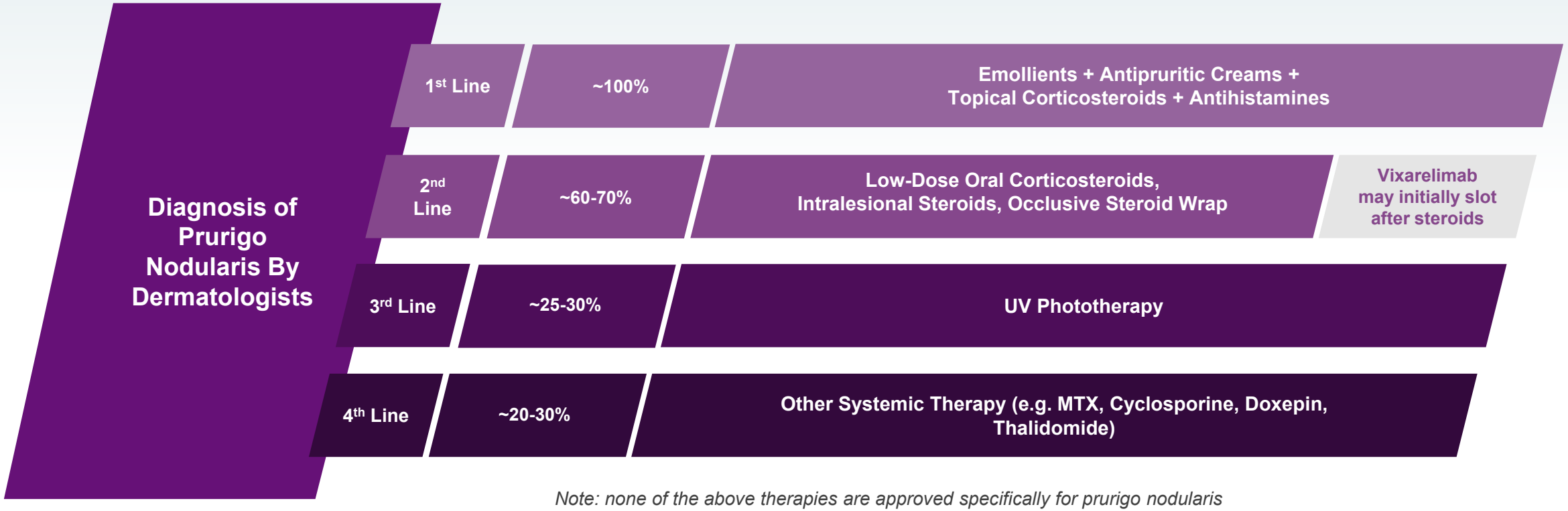


Prurigo Nodularis U.S. Prevalence Estimated to be ~300K Patients



Sources: CDC 2014: National Ambulatory Medical Care Survey: 2014 State and National Summary Tables <https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2014_namcs_web_tables.pdf>; Cowen and Company, Therapeutic Categories Outlook: Comprehensive Study September 2017; Primary Market Research; 3. Dantas, 2015, "Prevalence of dermatoses in dermatologic evaluation requests from patients admitted to a tertiary hospital for 10 years"

Prurigo Nodularis is Typically Treated by Dermatologists Through a Combination of Medications and Behavioral Therapies; Treatment is Usually Unsuccessful



Note: none of the above therapies are approved specifically for prurigo nodularis

Sources: 1. Medscape, 2. Trinity Qualitative Research

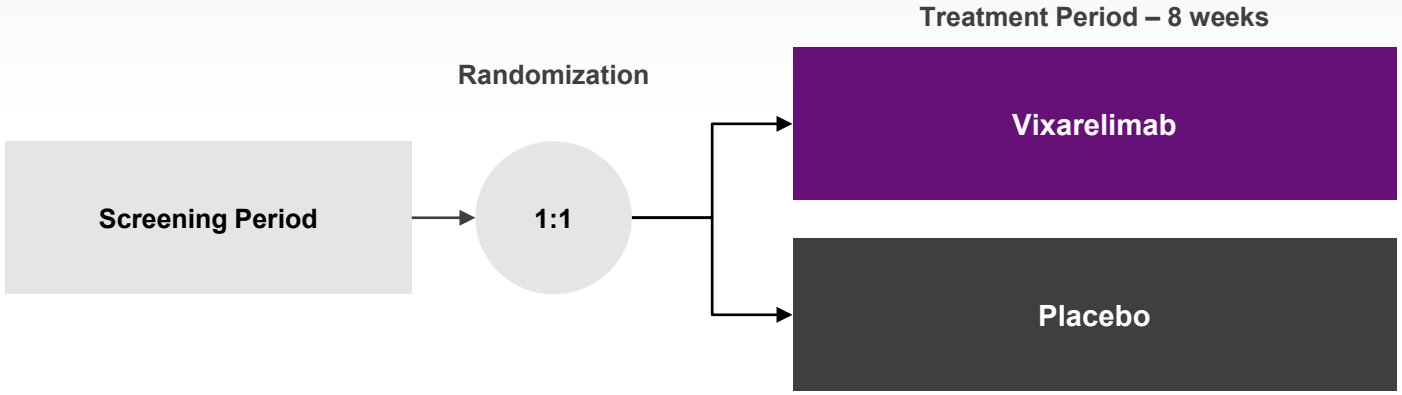
Vixarelimab Phase 2a Study in Prurigo Nodularis

Phase 2a Proof-of-Concept

Objective: Assess pruritus reduction

Dose: 720 mg SC loading dose --> 360 mg single SC QW thereafter

Primary Efficacy Endpoint : % change from baseline in weekly average Worst Itch-Numeric Rating Scale (WI-NRS)



Inclusion Criteria

- Male or female aged 18 to 75 years, inclusive, at the time of consent
- Have a physician-documented diagnosis of prurigo nodularis that is confirmed by review of medical photography during the Screening Period. Duration of prurigo nodularis (since the time of first PN nodule) must be at least 6 months from the time of first PN nodule to Day 1, as affirmed by the subject
- Have at least 10 nodules of approximately 0.5 to 2 cm at the Screening Visit and Day 1. The nodules must be pruritic and present on at least 2 different anatomical locations (not be localized), involve the extremities, with extensor extremity involvement greater than the flexor extremity involvement. Nodules on the head (face and scalp) are not counted as an anatomical location for eligibility criteria. There must be normal appearing skin present in between nodules with the exception of atopic dermatitis. Each arm, each leg, and trunk are considered different anatomical locations
- Subject has moderate to severe pruritus, defined as WI-NRS ≥ 7 at the Screening Visit and a mean weekly WI-NRS ≥ 5 for each of the 2 consecutive weeks immediately prior to randomization
- Patients were required to stop antihistamines and topical treatments, including corticosteroids, for at least two weeks prior to dosing
- Prurigo nodularis treatments, other than study drug, were not allowed except for rescue

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Vixarelimab Phase 2a Study in Prurigo Nodularis

Statistically significant primary efficacy endpoint of reduction in weekly-average WI-NRS at Week 8

Enrolled and treated 49 patients with moderate-to-severe prurigo nodularis (mean PN- IGA of 3.4) experiencing moderate-to-severe pruritus (mean WI-NRS score of 8.3)

- Randomized 1:1 to receive a loading dose of vixarelimab 720 mg (n=23) or placebo (n=26) subcutaneous (SC) followed by vixarelimab 360 mg or placebo SC weekly
- Data includes 49 subjects through the 8-week treatment period

Primary Efficacy Endpoint: percent change versus baseline in weekly-average WI-NRS at Week 8 (using the last observation carried forward analysis)

Topline Observations:

- Least squares-mean change from baseline in weekly-average WI-NRS at Week 8 was -50.6% in vixarelimab recipients compared to -29.4% in placebo recipients (mean difference 21.1%; p=0.035)
- Median change from baseline in weekly-average WI-NRS at Week 8 was -69.8% in vixarelimab recipients compared to -36.1% in placebo recipients
- 30.4% of vixarelimab recipients achieved a PN-IGA score of 0/1 at Week 8 compared to 7.7% of placebo recipients (p=0.032)
- 52.2% of vixarelimab recipients demonstrated a ≥ 4-point reduction in weekly-average WI-NRS at Week 8 compared to 30.8% of placebo recipients (p=0.109)
- In this Phase 2a trial, vixarelimab was well-tolerated by all subjects and no dose-limiting adverse experiences were observed. There were no serious adverse events or atopic dermatitis flares

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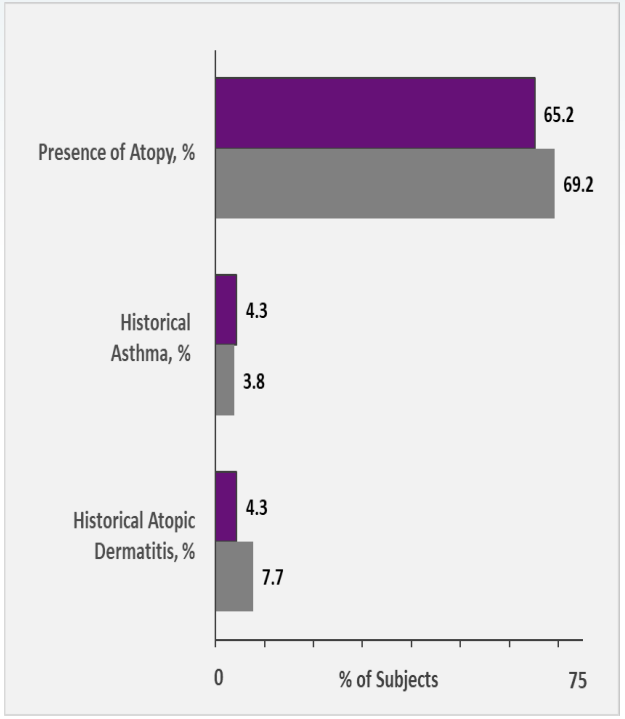
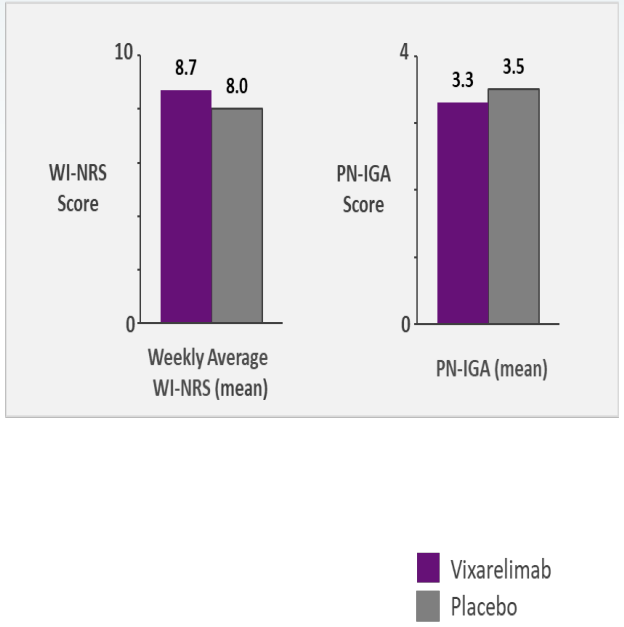
Vixarelimab Phase 2a Study in Prurigo Nodularis: Baseline Characteristics

General Characteristics*	Vixarelimab (n=23)	Placebo (n=26)	Total (n=49)
Age (Mean Years)	52	64	58
Sex (Male/Female)	10/13	10/16	20/29
Race			
White (n)	65.2% (15)	80.8% (21)	73.5% (36)
Black or African American (n)	21.7% (5)	11.5% (3)	16.3% (8)
Asian (n)	8.7% (2)	0	4.1% (2)
American Indian or Alaska Native (n)	0	3.8% (1)	2.0% (1)
Multiple (n)	4.3% (1)	0	2.0% (1)
Other (n)	0	3.8% (1)	2.0% (1)

Clinical Findings at Baseline: History of Atopy



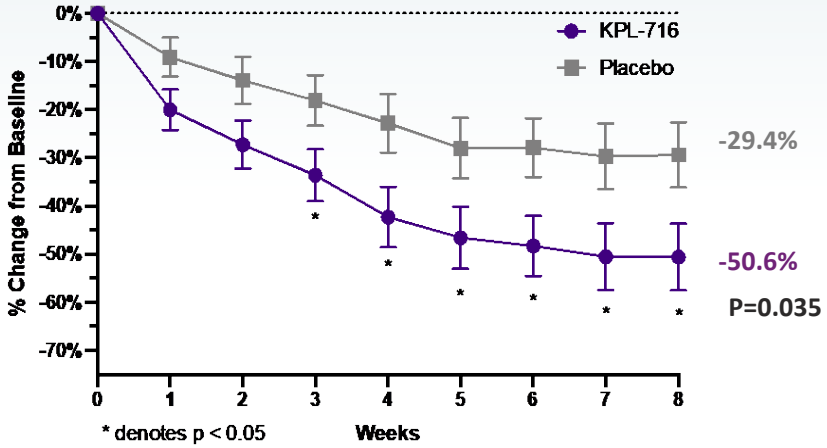
Clinical Findings at Baseline: WI-NRS & PN-IGA



*mITT Analysis Set

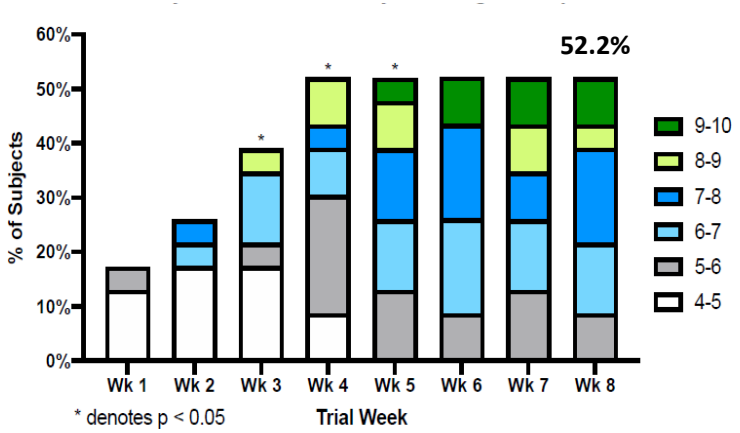
Vixarelimab Phase 2a Data in Prurigo Nodularis

LS-Mean % Change in Weekly Average WI-NRS



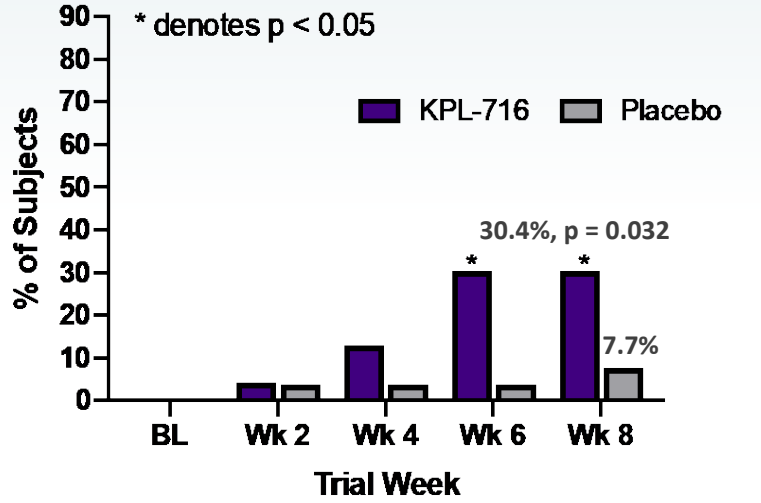
Statistically Significant Primary Efficacy Endpoint of Reduction in Weekly-Average WI-NRS at Week 8

% of Vixarelimab Subjects with a Clinically Meaningful Response in WI-NRS



Majority of Vixarelimab Recipients Showed a Clinically Meaningful ≥4-Point Weekly-Average WI-NRS Reduction at Week 8

PN-IGA Score of 0 or 1

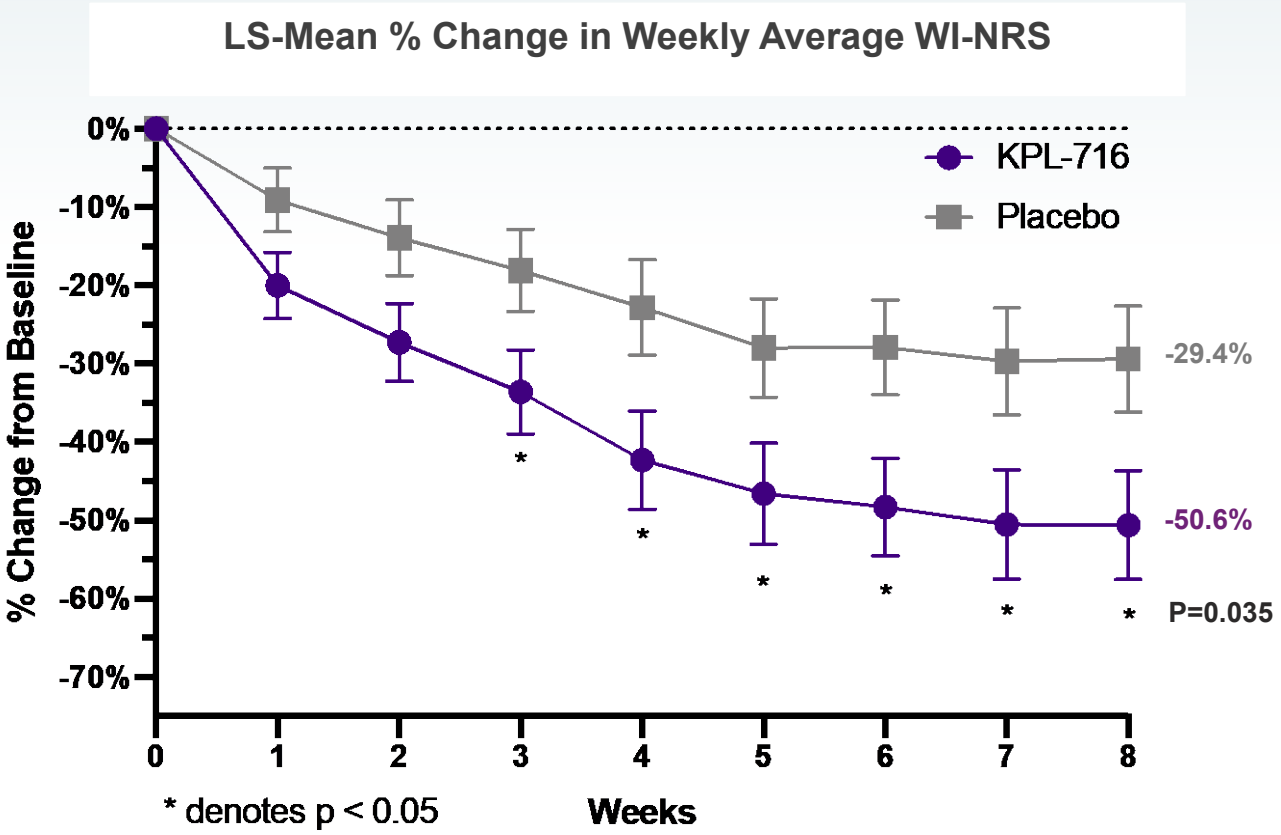


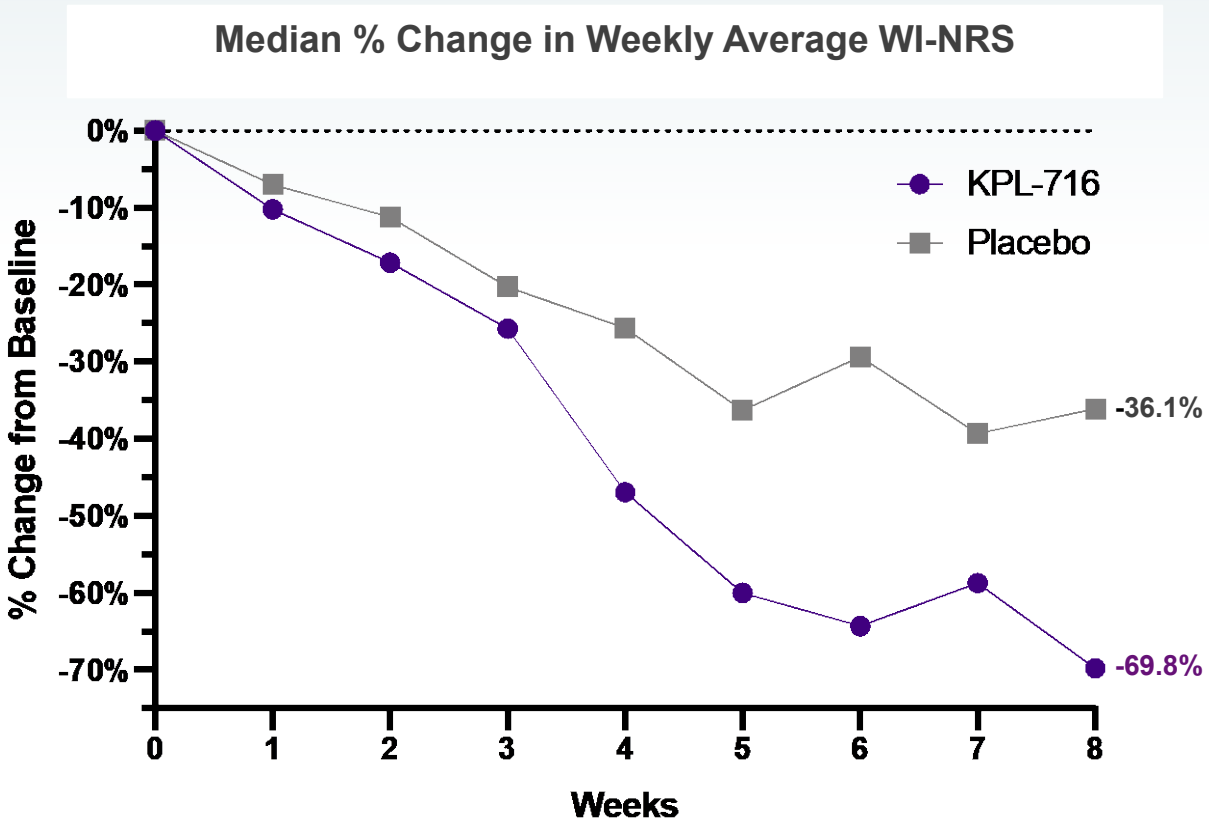
Significantly More Vixarelimab Recipients Attained A Clear/Almost Clear Lesion Score by Week 8

Vixarelimab = KPL-716
WI-NRS = Worst-Itch Numeric Rating Scale
LS = least squares

Vixarelimab Phase 2a Study in Prurigo Nodularis: Statistically Significant Primary Efficacy Endpoint of Reduction in Weekly-Average WI-NRS at Week 8

Median change from baseline in weekly-average WI-NRS at Week 8 was -69.8%





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Vixarelimab = KPL-716
WI-NRS = Worst-Itch Numeric Rating Scale
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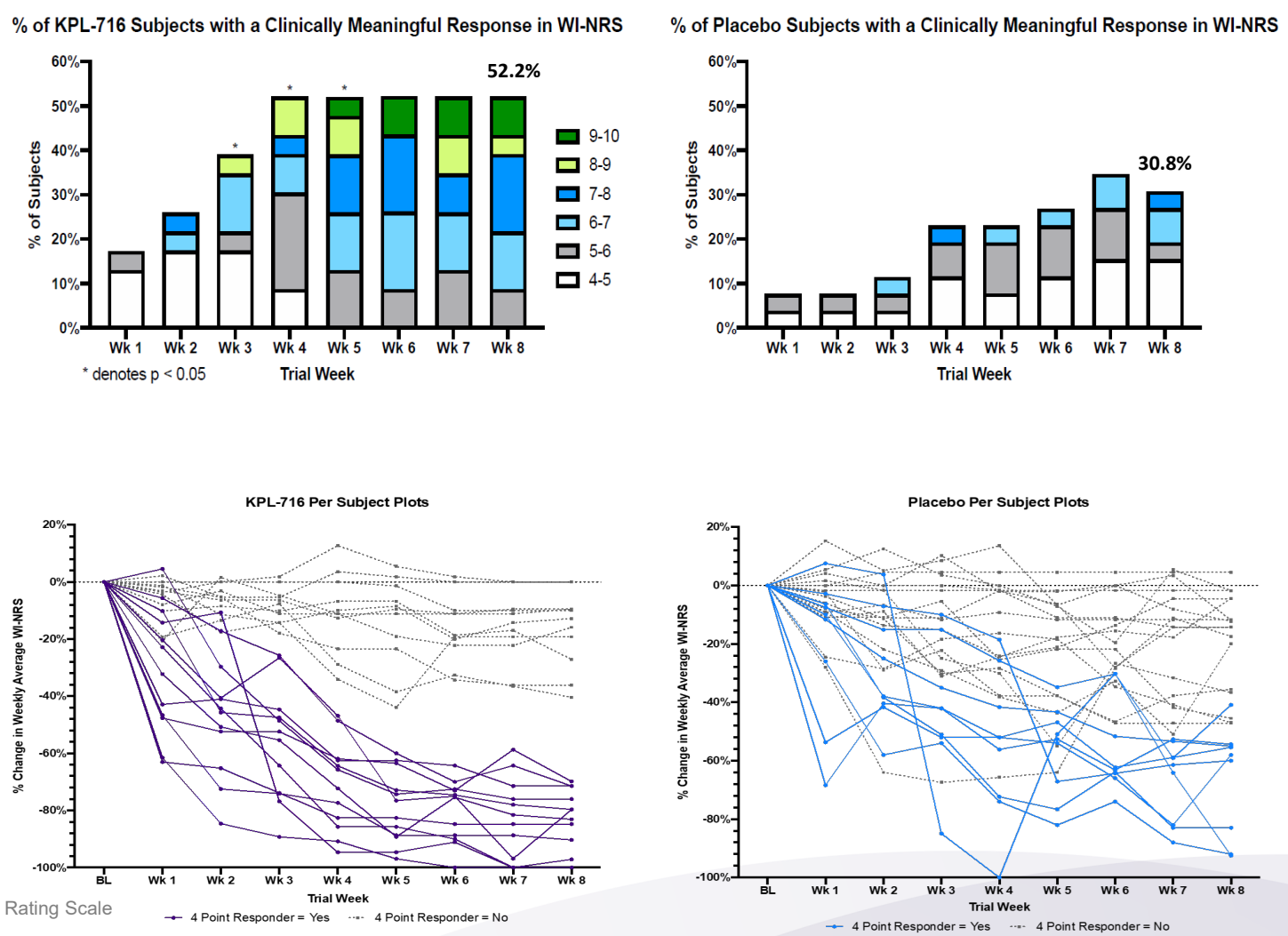
Vixarelimab Phase 2a Study in Prurigo Nodularis: Majority of Vixarelimab Recipients Showed a Clinically Meaningful ≥4-Point Weekly-Average WI-NRS Reduction at Week 8



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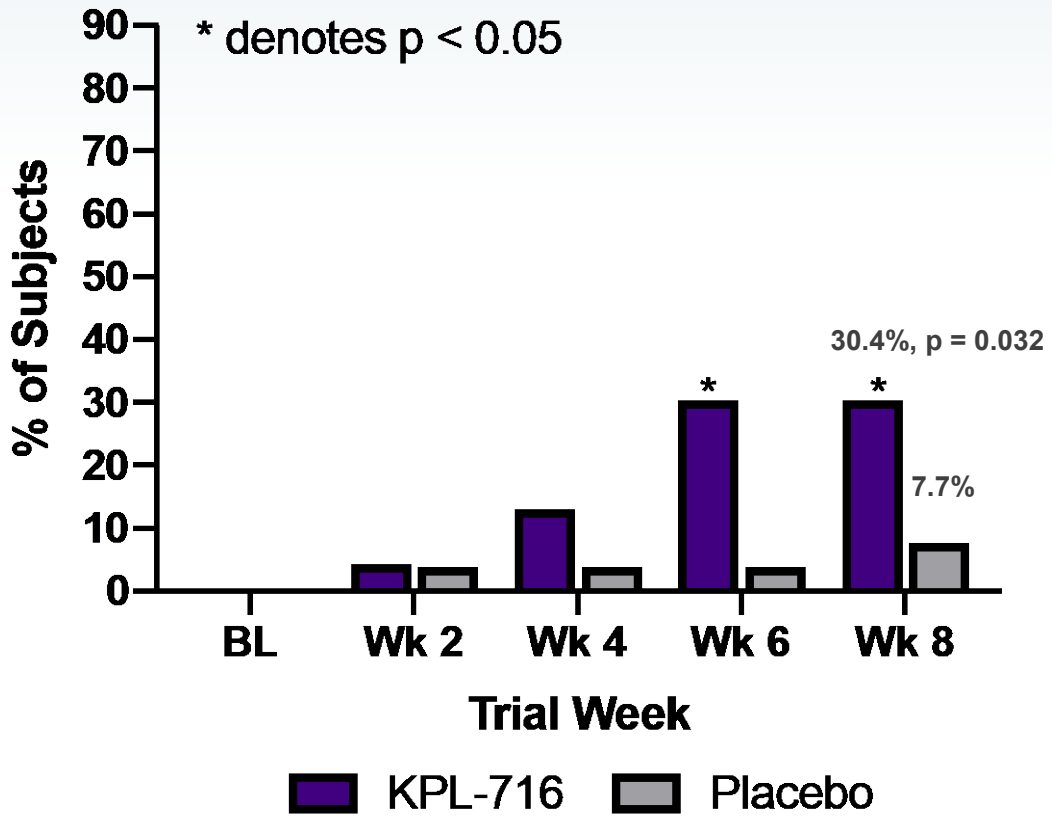
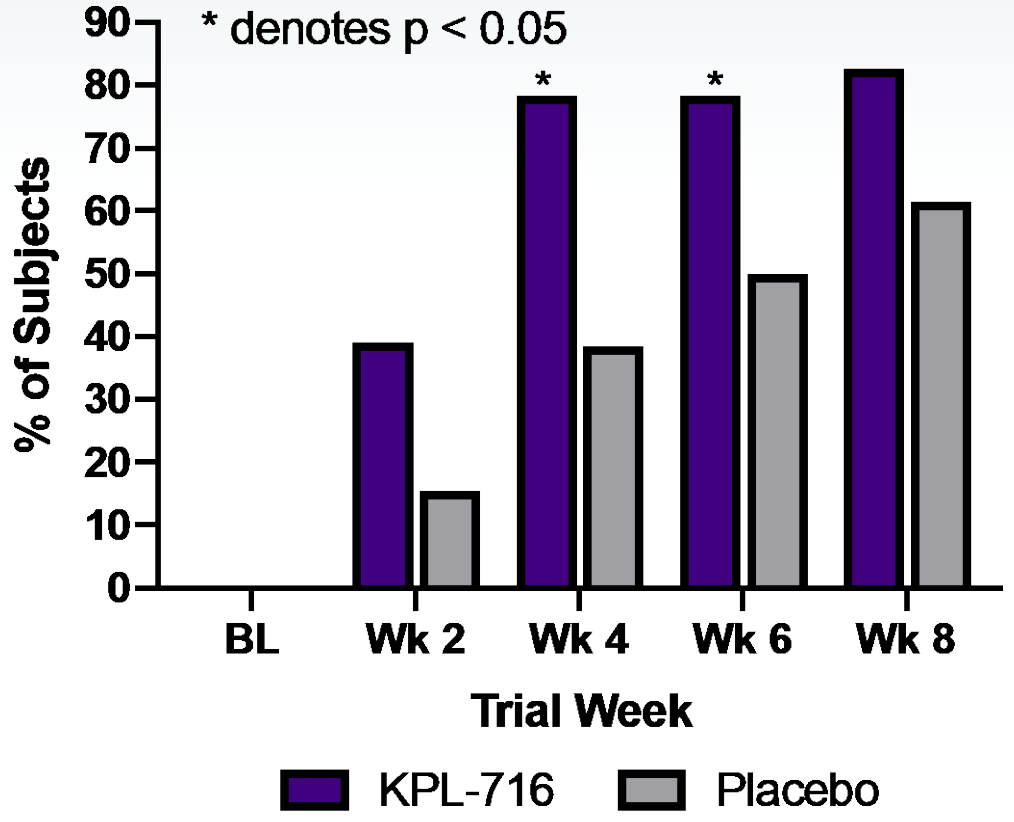
Vixarelimab Phase 2a Study in Prurigo Nodularis: Significantly More Vixarelimab Recipients Attained A Clear/Almost Clear Lesion Score by Week 8

PN-IGA Score of 0 or 1



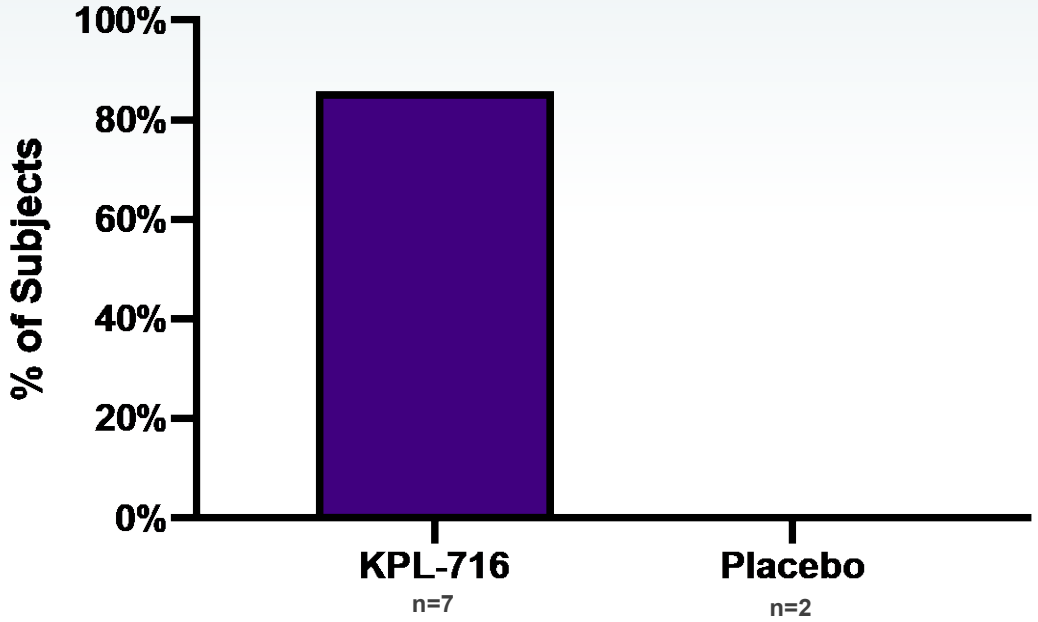
≥1 Point Change in PN-IGA



Vixarelimab = KPL-716
WI-NRS = Worst-Itch Numeric Rating Scale
LS = least squares

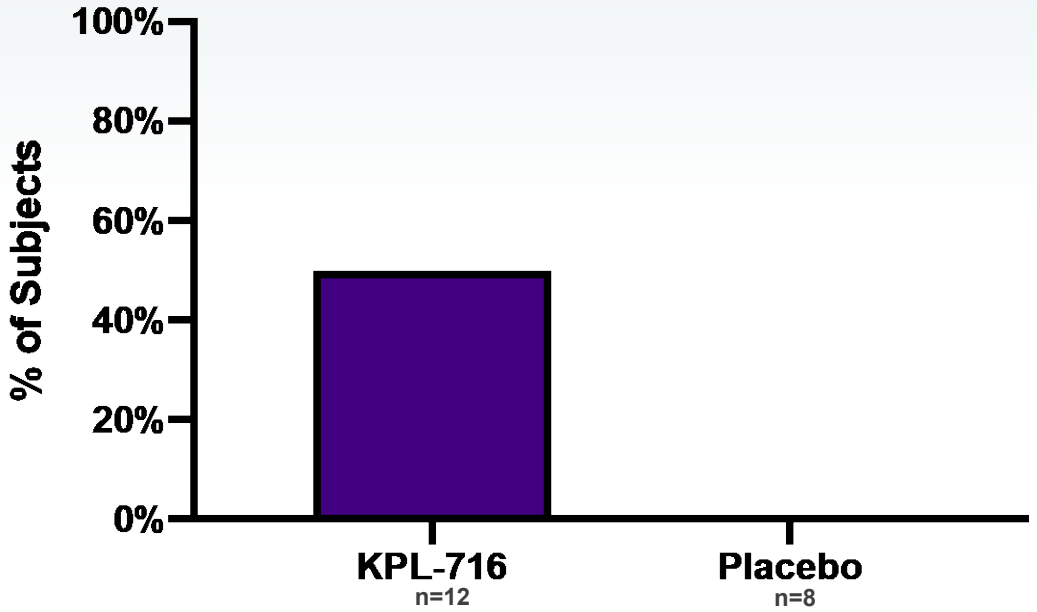
Vixarelimab Phase 2a Study in Prurigo Nodularis: Concordant Activity of Vixarelimab on PN-IGA and Pruritus

% of IGA 0-1 Subjects with ≥4 Point Change in WI-NRS



85.7% of the subjects who achieved 0-1 on the PN-IGA scale were also 4-point responders on WI-NRS vs. none for placebo

% of Subjects with ≥4 Point Change in WI-NRS and an IGA of 0-1



50% of the subjects who had a clinically meaningful reduction in itch by week 8 also had an PN-IGA score of 0-1 vs. none for placebo

Vixarelimab = KPL-716
WI-NRS = Worst-Itch Numeric Rating Scale
LS = least squares

Vixarelimab was Well-Tolerated in Prurigo Nodularis Phase 2a Study

Summary of Adverse Events	Vixarelimab (n=23)	Placebo (n=26)
Any AE (n)	82.6% (19)	65.4% (17)
TEAE (n)	82.6% (19)	65.4% (17)
Drug-Related TEAE (n)	39.1% (9)	30.8% (8)
Serious TEAE	0	0
Drug-Related Serious TEAE	0	0
TEAE Leading to Treatment Discontinuation	0	0
Drug-Related TEAE Leading to Treatment Discontinuation	0	0
Serious TEAE Leading to Treatment Discontinuation	0	0
Drug-Related Serious TEAE Leading to Treatment Discontinuation	0	0
TEAE Leading to Death	0	0

AE = adverse event
TEAE = treatment emergent adverse event

Vixarelimab was Well-Tolerated in Prurigo Nodularis Phase 2a Study

System Organ Class Preferred Term	Vixarelimab (n=23)	Placebo (n=26)
Infections and Infestations (n)	30.4% (7)	46.2% (12)
Upper Respiratory Tract Infection (n)	17.4% (4)	3.8% (1)
Nasopharyngitis (n)	4.3% (1)	7.7% (2)
Gastroenteritis Viral (n)	4.3% (1)	0
Influenza (n)	4.3% (1)	0
Postoperative Wound Infection (n)	4.3% (1)	0
Subcutaneous Abscess (n)	4.3% (1)	0
Urinary Tract Infection (n)	0	11.5% (3)
Bronchitis (n)	0	3.8% (1)
Cellulitis (n)	0	3.8% (1)
Eczema Impetiginous (n)	0	3.8% (1)
Herpes Simplex (n)	0	3.8% (1)
Otis Media (n)	0	3.8% (1)
Skin Infection (n)	0	3.8% (1)
Tooth Abscess (n)	0	3.8% (1)

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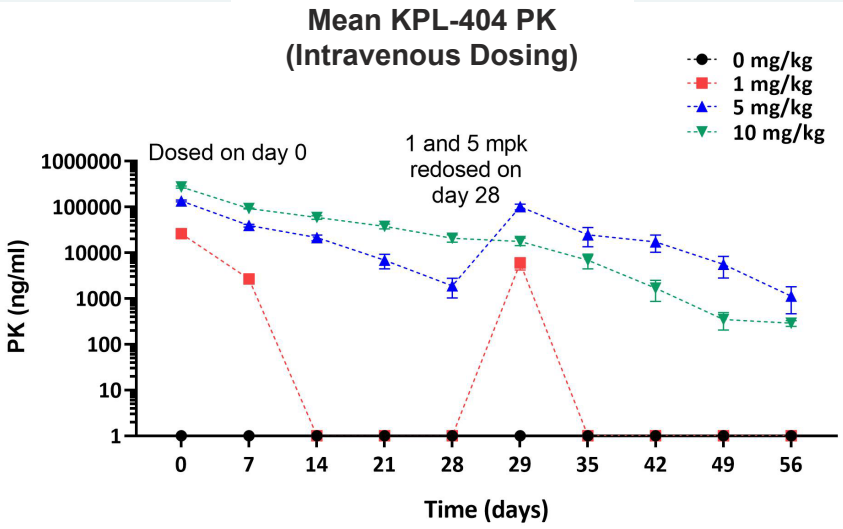
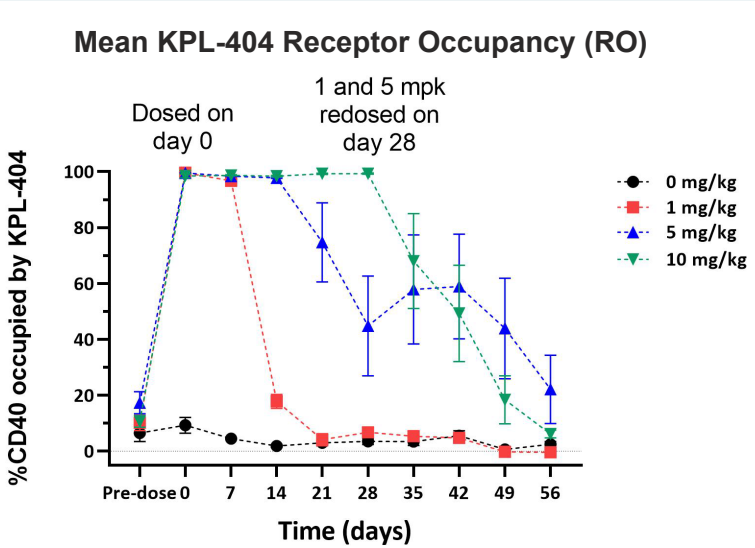
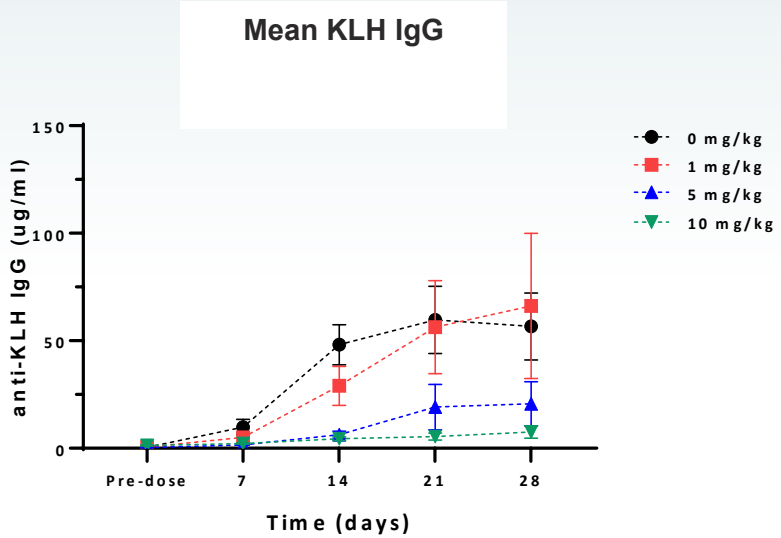
Appendix KPL-404

KPL-404 Showed Encouraging Results in a Non-Human Primate Model of TDAR







Showed linear pharmacokinetic profile with low variability between non-human primate subjects (n=7)

KPL-404 achieved 100% receptor occupancy for 2 weeks in all animals at 5mg/kg and 4 weeks in all animals at 10mg/kg

Complete suppression of primary T-cell dependent antigen response correlated with 100% receptor occupancy

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Source = 1) Poster presentation at the Keystone Symposia: Antibodies as Drugs: New Horizons in the Therapeutic Use of Engineered Antibodies: KPL-404, a CD40 antagonist, blocked antigen-specific antibody responses in an in vivo NHP model and demonstrated strong PK/PD correlation; TDAR = T-cell dependent antibody response; KLH = keyhole limpet hemocyanin

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Corporate Presentation

FEBRUARY 2022