



Every Second Counts™

January 2019

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 subsidiary, together, unless context otherwise requires, “Kiniksa,” “we” 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” 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, goals for 2019, plans and timing for initiation of new clinical trials, potential designs of our new clinical trials, indications for the investigation of our product candidates, plans and timing to report clinical trial data, timing for the initiation of clinical trial sites, plans and timing for the submission of investigational new drug and other applications and submissions to regulatory authorities, plans and timing to advance additional pipeline programs into clinical trials, our pre-commercial efforts, potential value drivers for the company and timing thereof, potential market opportunity and competitive position, and plans and timing for 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 the important factors discussed under the caption “Risk Factors” in our Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission (“SEC”) on November 6, 2018 and our other reports and other filings subsequently filed with the SEC. 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.

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.

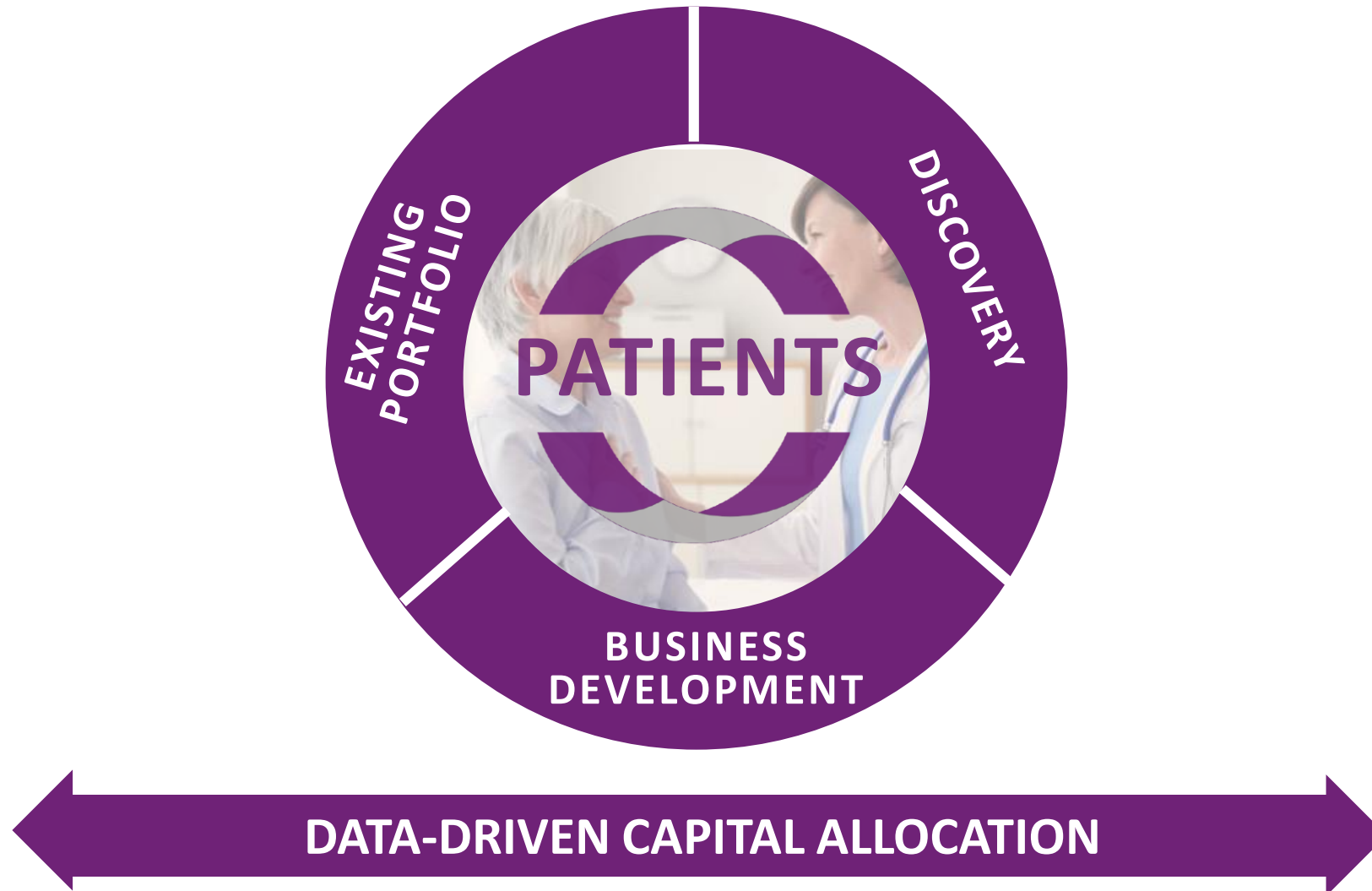
Except as otherwise indicated, this presentation speaks as of the date of this presentation. We undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

KINIKSA

- ✓ Passionate Employees
- ✓ Sequential Pipeline
- ✓ Rare and Specialty Diseases
- ✓ Strong Biologic Rationale or Validated Mechanisms
- ✓ Potential for Multiple Indications

Building a fully-integrated global biopharmaceutical company

Discovering, acquiring, developing and commercializing life-changing therapies for debilitating diseases



Pipeline of 5 product candidates across various stages of development

Designed to deliver near-, mid- and long-term value

Program & Target	Indication	Phase				Status	Rights
		Preclinical	1	2	3		
1 Rilonacept¹ IL-1α & IL-1β	Recurrent Pericarditis					Enrolling single, pivotal Phase 3 trial in recurrent pericarditis	Worldwide (excluding MENA)
2 Mavrilimumab GM-CSFRα	Giant Cell Arteritis (GCA)					Enrolling global Phase 2 proof-of-concept trial	Worldwide
3 KPL-716 OSMRβ	Prurigo Nodularis (PN)					Advancing into multiple chronic pruritic diseases; starting with planned Phase 2a/2b in PN	Worldwide
	Atopic Dermatitis (AD)					Data from repeated-single-dose Phase 1b expected in 2H 2019	
4 KPL-045² CD30L	Autoimmune					Preclinical	Worldwide
5 KPL-404² CD40	Autoimmune					Preclinical	Worldwide

1) Rilonacept (ARCALYST®) is approved and marketed for cryopyrin-associated periodic syndrome, in the United States by Regeneron Pharmaceuticals, Inc. We will assume the rights to this indication upon receiving approval for rilonacept in the recurrent pericarditis indication; 2) We are planning IND-enabling studies for both KPL-045 and KPL-404 in T-cell-dependent, B-cell-mediated diseases, such as pemphigus/pemphigoid, myasthenia gravis, or graft versus host disease.

Strong execution produced transformational 2018

2018 Goals



Rilonacept

Report interim Phase 2 data
Start Phase 3 clinical trial



Mavrilimumab

U.S. IND and global regulatory submissions
Start global Phase 2 clinical trial (GCA)



KPL-716

Report Phase 1a/1b data
Start repeated-single-dose Phase 1b clinical trial



KPL-045

IND enabling studies



KPL-404

IND enabling studies

2019 Goals



Rilonacept

Enroll in pivotal Phase 3 clinical trial
Outline commercial strategy



Mavrilimumab

Enroll in global Phase 2 clinical trial (GCA)
Announce additional indication



KPL-716

Advance into multiple chronic pruritic diseases
Report repeated-single-dose-data



KPL-045

File IND



KPL-404

File IND

1

Rilonacept – Phase 3

(IL-1 α and IL-1 β cytokine trap)



RHAPSODY

Rilonacept

Mavrilimumab

KPL-716

KPL-045

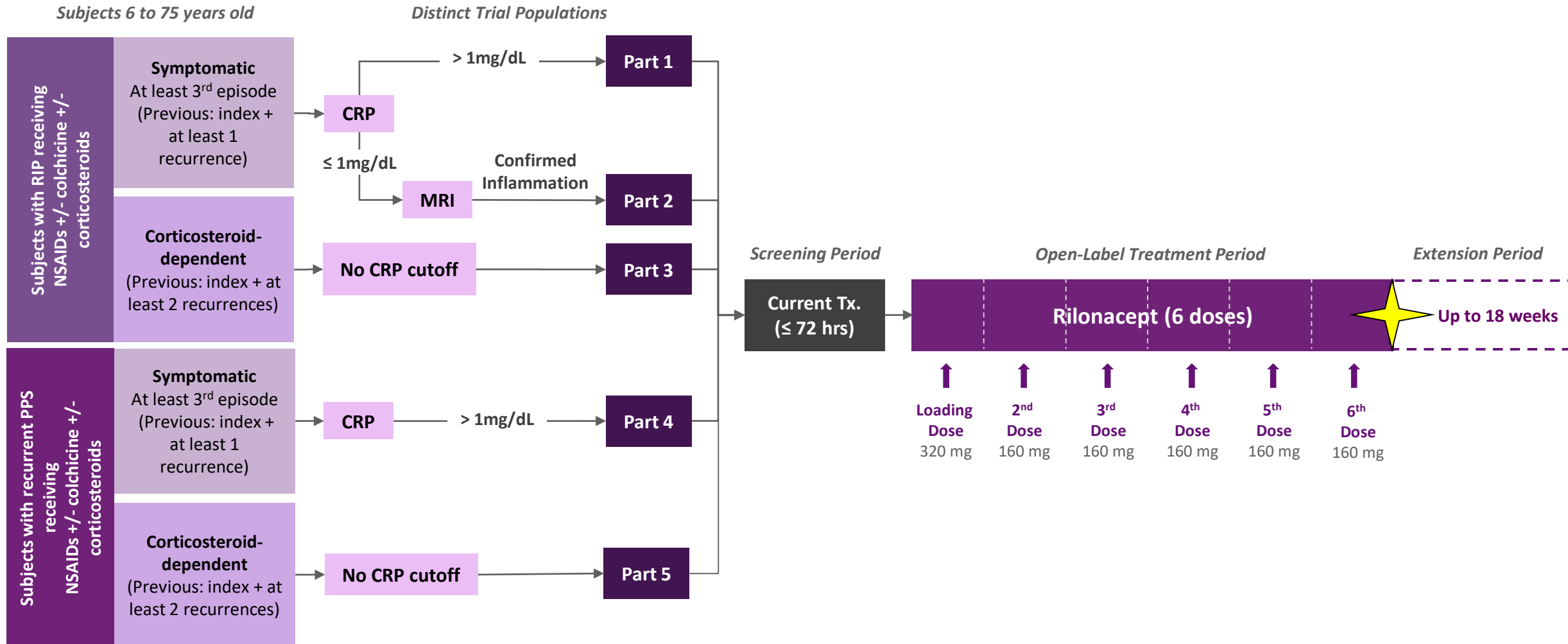
KPL-404

Opportunity in an inflammatory cardiovascular disease with no currently-approved therapies

Mechanism of Action¹	IL-1 α and IL-1 β cytokine trap
Lead Indication	Recurrent Pericarditis (approved in the U.S. for CAPS, a rare autoinflammatory disease)
Addressable Population²	~14k patients in the U.S. (~3k refractory, ~6k poorly-controlled or steroid-dependent, ~5K steroid intolerant)
Competition³	No currently-approved therapies in recurrent pericarditis; differentiated from other marketed IL-1 agents
Clinical Development	Enrolling a global, pivotal Phase 3 trial (RHAPSODY); Presenting data from ongoing Phase 2 trial at ACC
Rights	Worldwide (excluding MENA); BLA transfers to Kiniksa upon approval in recurrent pericarditis

1) Brucato et al. JAMA. 2016, 316 (18): 1906-1912; Arcalyst Prescribing Information; 2) IQVIA PharMetrics Plus Claims Data 1/1/2013-3/31/2018; ClearView Analysis, UptoDate, Trinity Partners, Mayo Clin Proc. 2010 ;85 (6): 572-593; New Diagnostic Criteria for Acute Pericarditis: A Cardiac MRI Perspective, 2015 American College of Cardiology; 3) 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

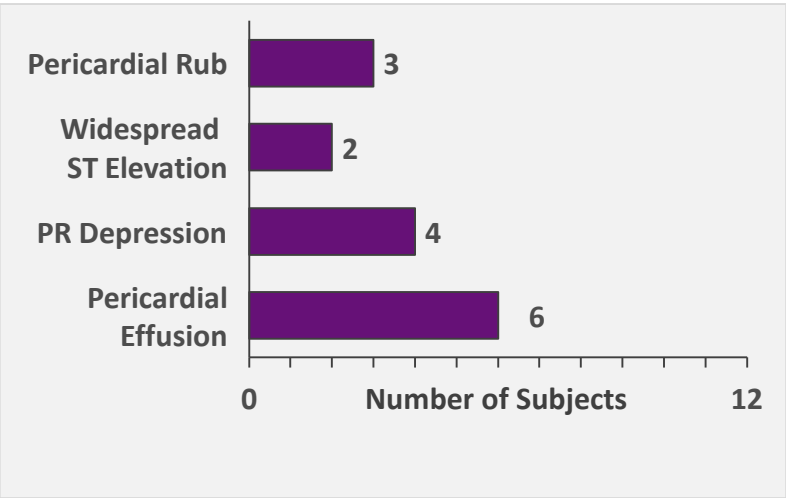
Open-label Phase 2 clinical trial of rilonacept in pericarditis populations



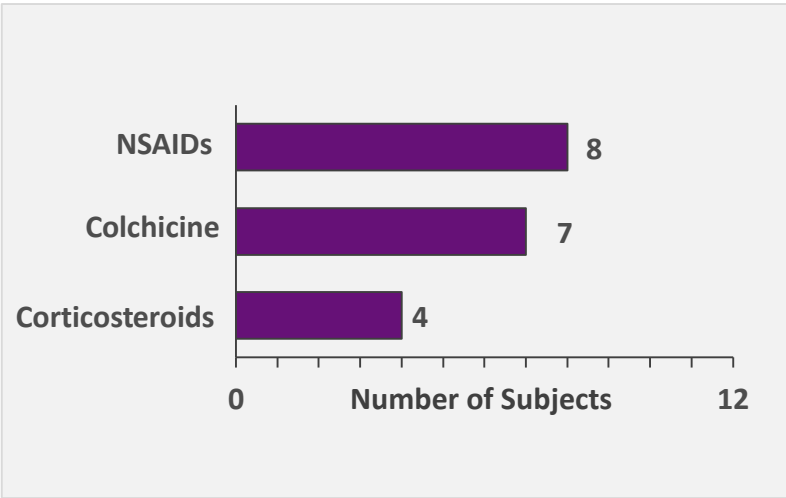
Baseline characteristics of open-label Phase 2 clinical trial in symptomatic recurrent pericarditis (Part 1)

General Characteristics	Data
Number of Subjects Enrolled <i>As of Nov 1, 2018</i>	12
Age (yrs)	26-52
Sex (Male/Female)	3/9
Episodes Prior to Qualifying Episode	2-5

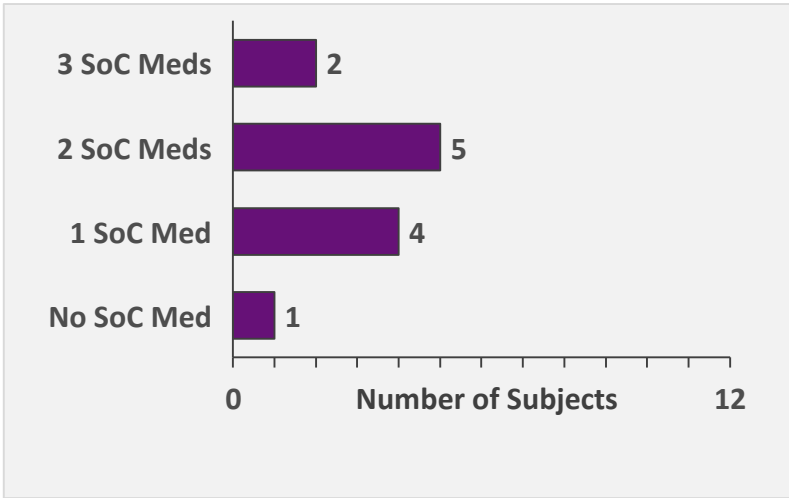
Clinical Findings at Baseline



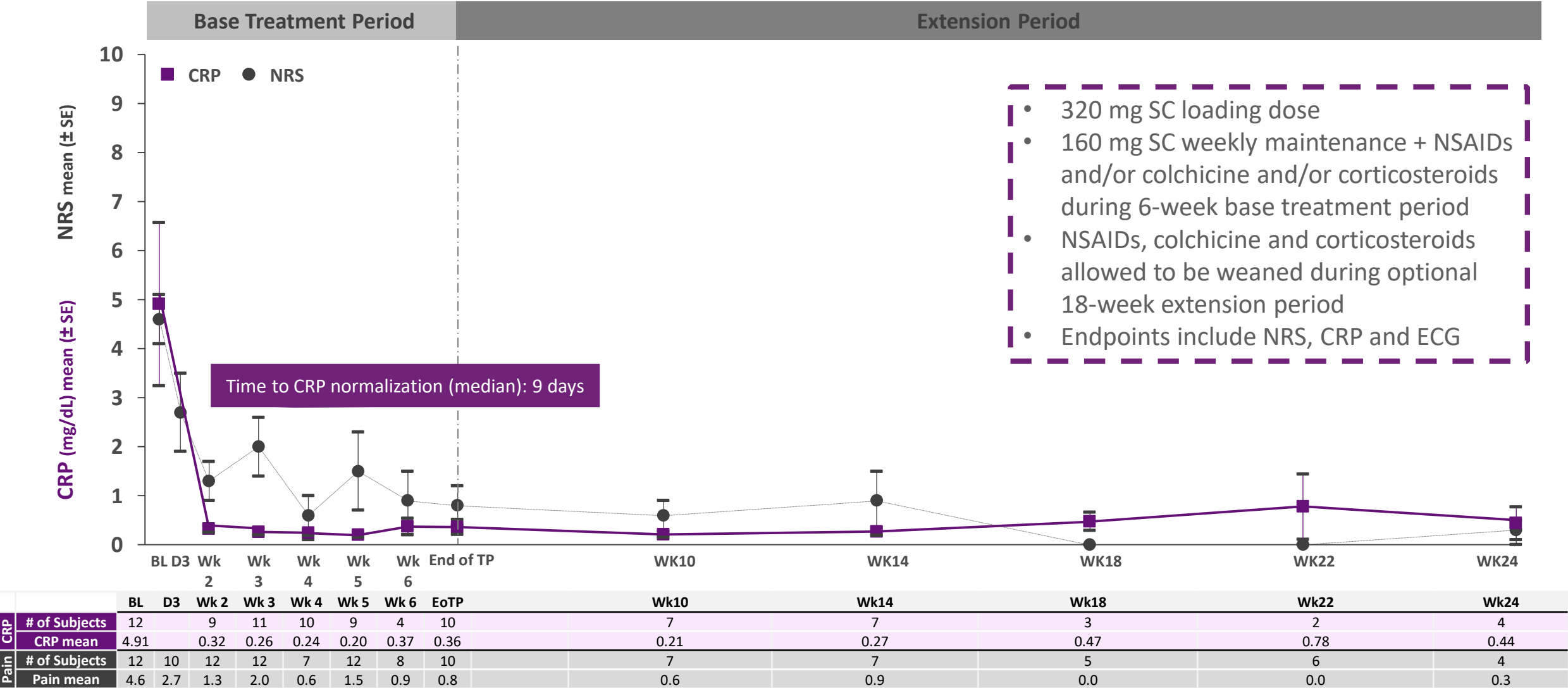
SoC Received at Baseline



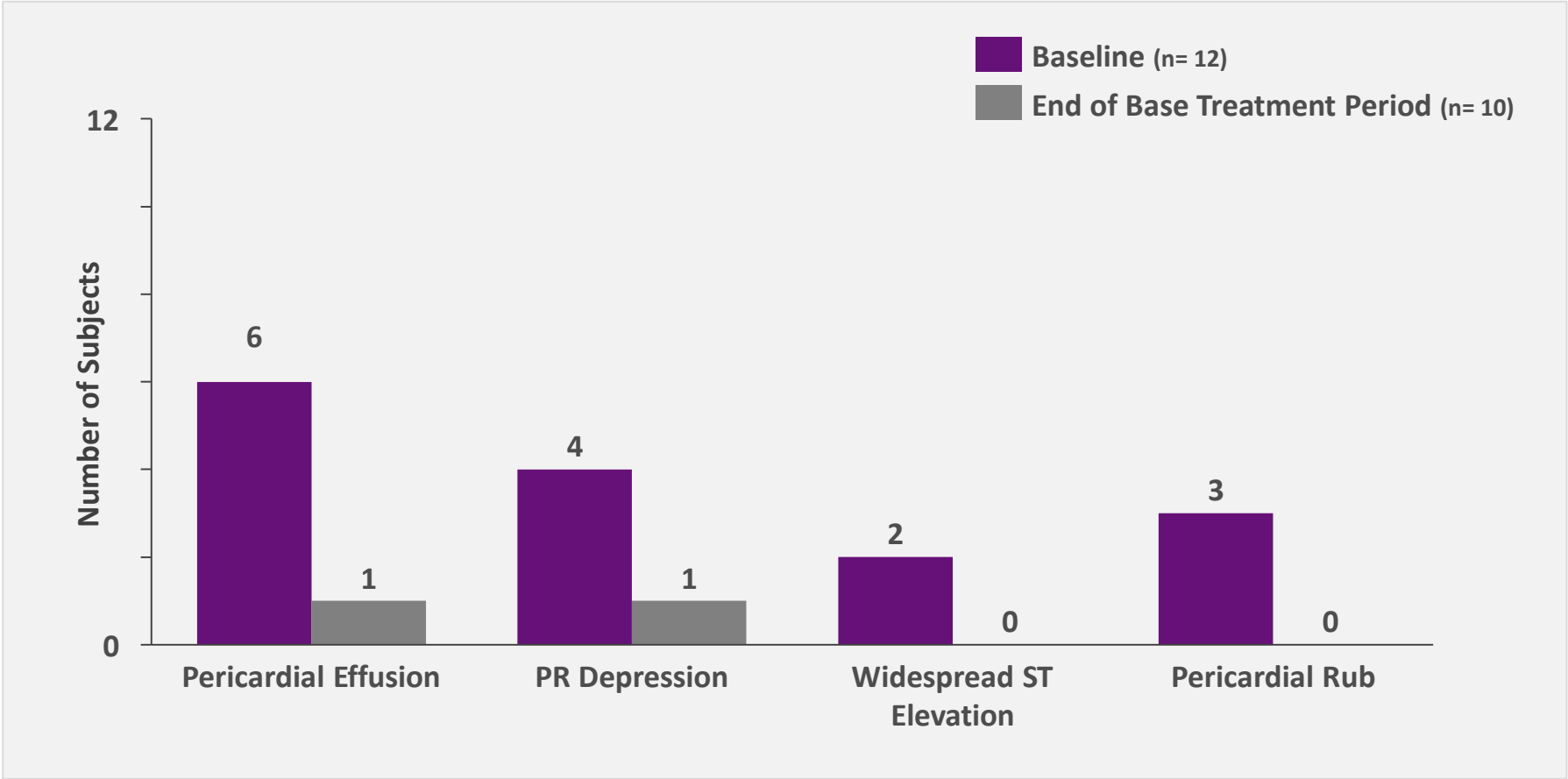
Combination Therapy at Baseline



Open-label Phase 2 rilonacept study in symptomatic recurrent pericarditis



Pericardial signs resolved during rilonacept 6-week base treatment period



Summary of adverse events

- Rilonacept was generally well-tolerated
- 7/12 subjects experienced at least one treatment-related adverse event during the treatment period
- The most common adverse events were mild transient injection site reaction and gastrointestinal disorders
- One patient discontinued from the study due to a Treatment-Emergent Serious Adverse Event, skin abscess

Treatment-Related and Non-Treatment-Related TEAEs

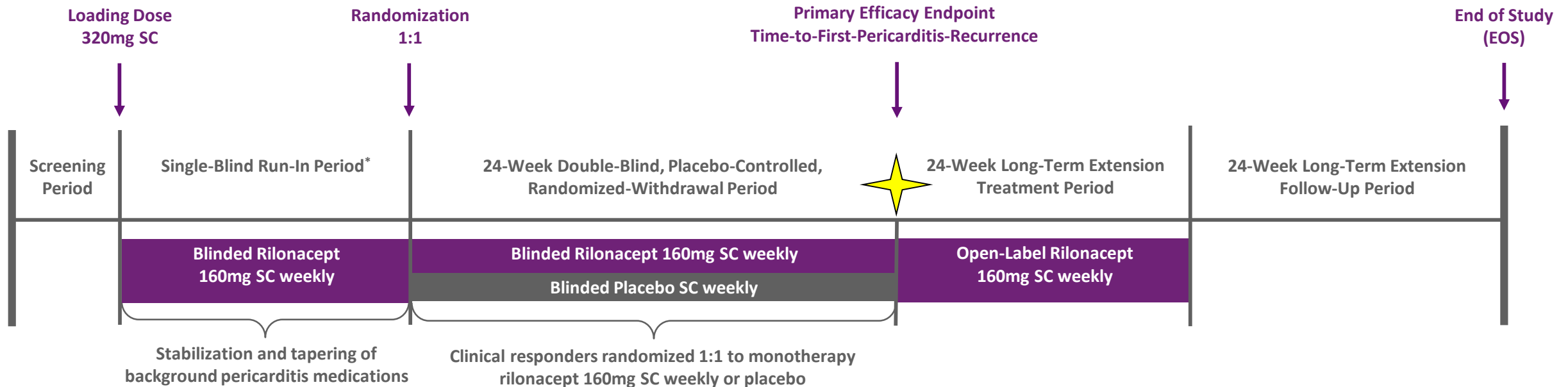
Category	Subjects (n=12)
Subjects with at least one TEAE	12
Subjects with at least one treatment-related TEAE	7
Subjects with at least one serious TEAE	2
Subjects with a serious Treatment-Related TEAE	1
Subjects with at least one TEAE leading to treatment discontinuation*	1
Subjects with at least one TEAE leading to death	0

* 1 patient discontinued due to SAE of skin abscess (occurred after the Nov 1st data cutoff)

AEs Occurring at Least Once (by Affected Organ System)

Organ System	Preferred Term	Part 1 (n=12)
Number (%) of subjects who had at least one AE		12 (100%)
Gastrointestinal disorders		6 (50%)
General disorders and administration site conditions		5 (41.7%)
Infections and infestations		5 (41.7%)
Investigations		5 (41.7%)
	Liver function test increased	2 (16.7%)
	Blood cholesterol increased	1 (8.3%)
	Blood creatine phosphokinase increased	1 (8.3%)
	HDL increased	1 (8.3%)
Musculoskeletal and connective tissue disorders		2 (16.7%)

Pivotal Phase 3 clinical trial of rilonacept for recurrent pericarditis



Inclusion Criteria:

- Present at screening with at least a third pericarditis episode, defined as at least 1 day with NRS pain of ≥ 4
- 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 Outcome Measure (24 weeks):

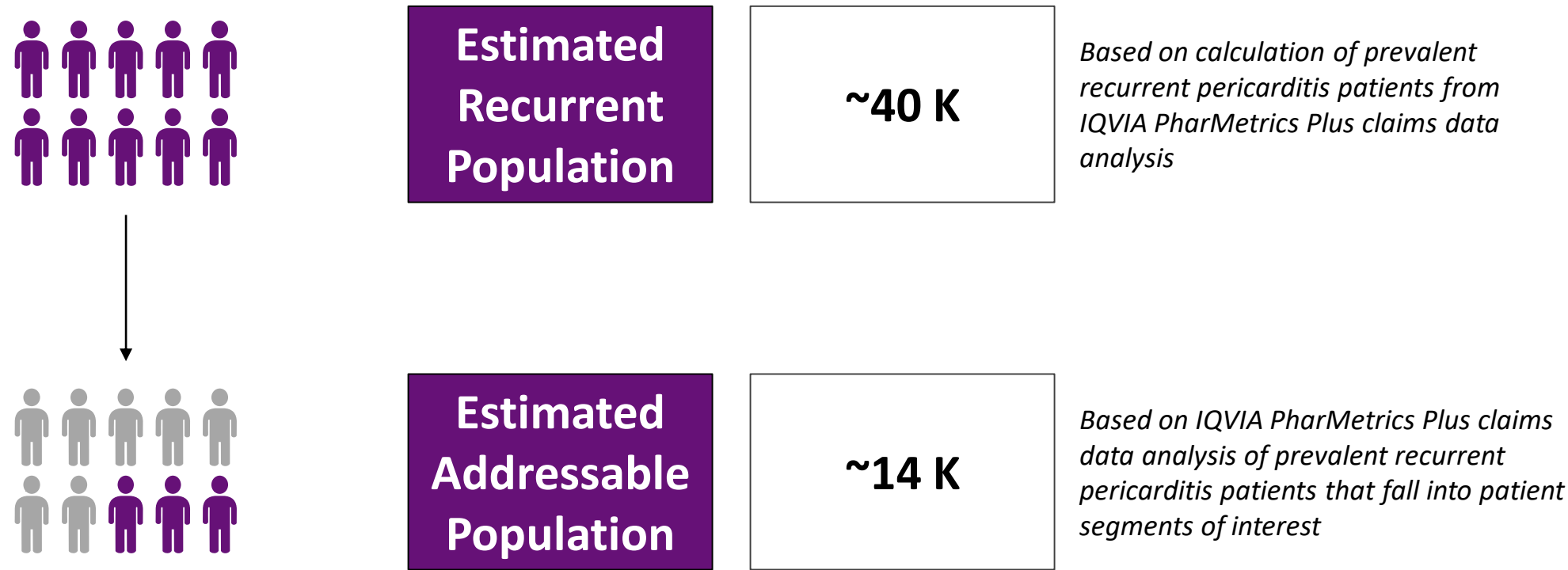
- Time to pericarditis recurrence

Secondary Outcome Measures (24-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
- Proportion of subjects with adverse events

Recurrent pericarditis prevalence in the U.S. estimated to be ~40k patients*

Addressable opportunity for rilonacept in the U.S. estimated to be ~14K patients*

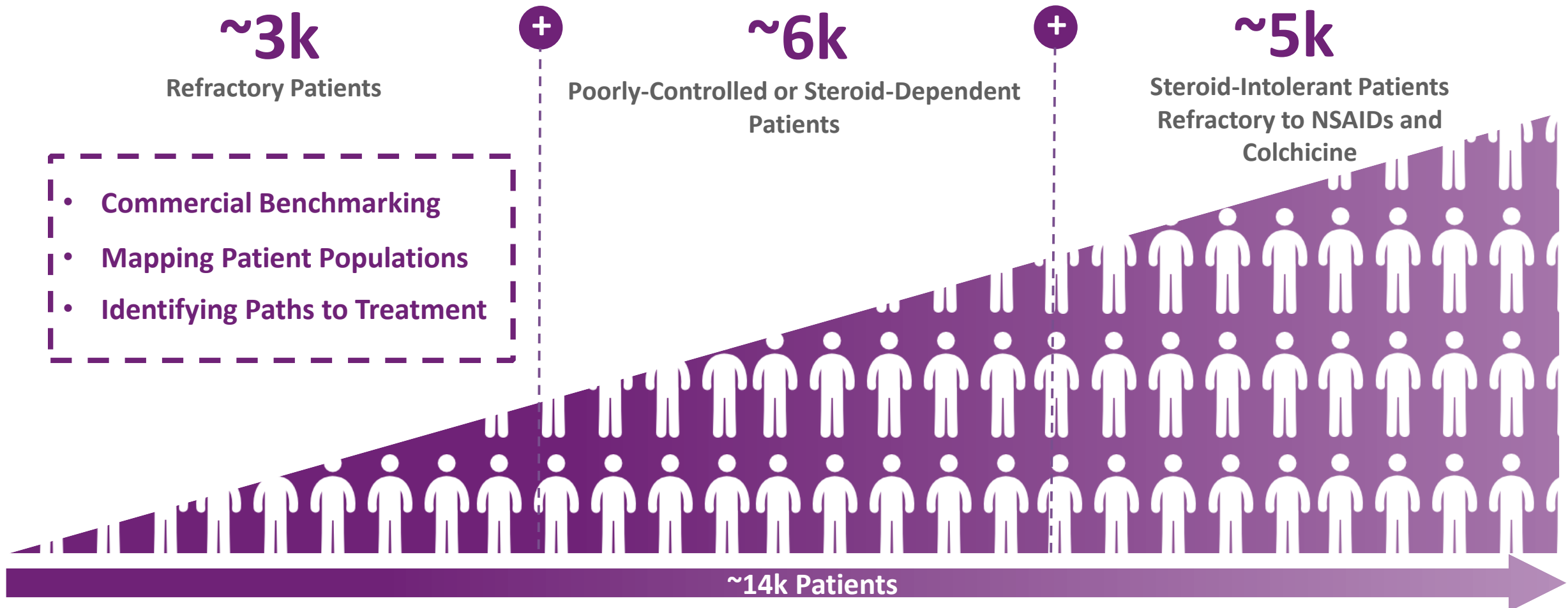


Based on multiple claims data

* Estimates based upon the diagnosed and treated patients in the healthcare system per IQVIA PharMetrics Plus Claims Data 1/1/2013 – 3/31/2018; ClearView Analysis.

Addressable recurrent pericarditis patient population in the U.S.*

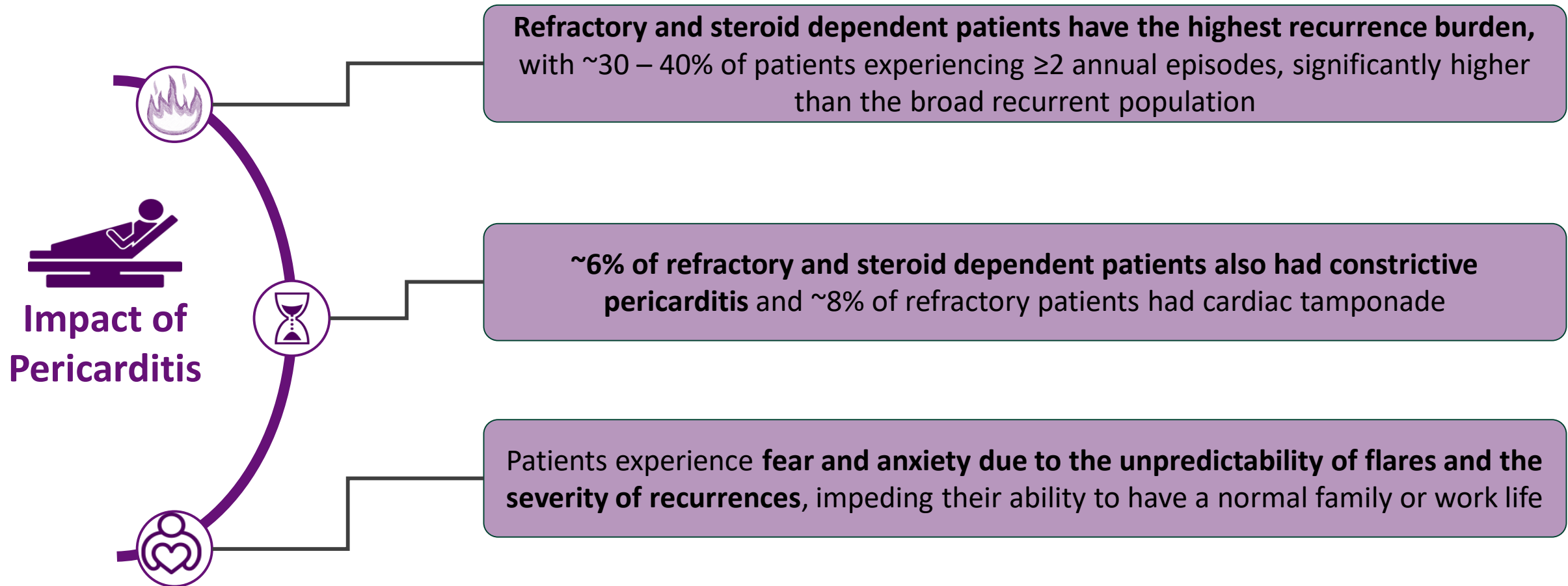
Potential to expand over time with positive physician experience



Based on multiple claims data

* Estimates based upon the diagnosed and treated patients in the healthcare system per IQVIA PharMetrics Plus Claims Data 1/1/2013 – 3/31/2018; ClearView Analysis.

Recurrence burden significantly impacts morbidity and impairs quality of life



Based on multiple claims data

2 Mavrilimumab – Phase 2

(monoclonal antibody inhibitor targeting GM-CSFR α)

Rilonacept

Mavrilimumab

KPL-716

KPL-045

KPL-404

Mechanistic rationale for focusing on high unmet need vasculitides & inflammatory cardiomyopathies

Mechanism of Action¹	Monoclonal antibody inhibitor targeting GM-CSFR α ; a key mediator of inflammation and autoimmunity
Lead Indication	Giant Cell Arteritis (GCA)
Addressable Population²	~75k - 150k prevalent in the U.S.; similar prevalence in other major markets
Competition³	Only one FDA-approved therapy for GCA, but unmet needs remain
Clinical Development	Enrolling a global Phase 2 proof-of-concept clinical trial
Rights	Worldwide

1) Sources: Wicks, Roberts, Nature Review Immunology, 2015; Hamilton, Expert Review of Clinical Immunology, 11:4, 457-465; 2) Chandran et al., Scand J Rheumatol, 2015; Trinity Consulting – HCUP/Medicare Data, Quantitative Survey (n=102 rheumatologists); 3) Cortellis, UpToDate; Correspondence, Trial of Tocilizumab in Giant-Cell Arteritis, NEJM, 2017

GM-CSF is a key growth factor believed to be involved in the pathology of GCA

Estimated U.S. prevalence of ~75k-150k¹; ~50-70% of patients are refractory or steroid-dependent²

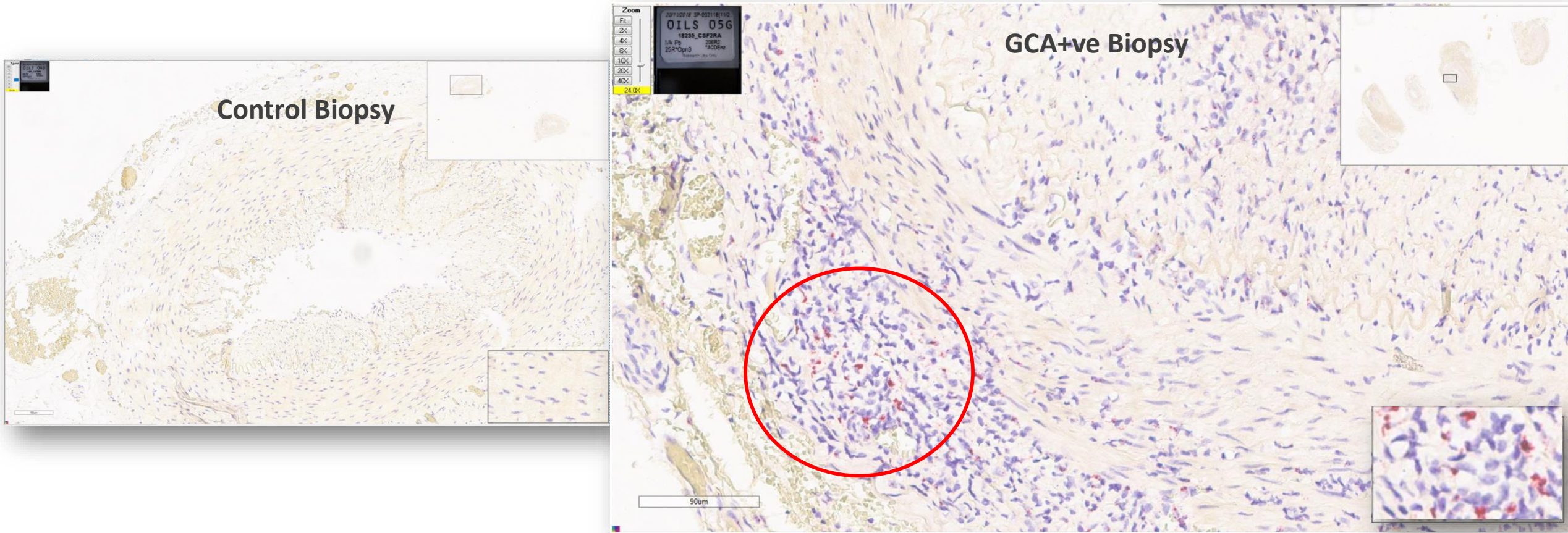
GCA is an inflammation of muscular arteries in the body

GM-CSF and GM-CSFR α are highly expressed in GCA Lesions

GCA lesions heavily comprised of giant cells and non-classical macrophages

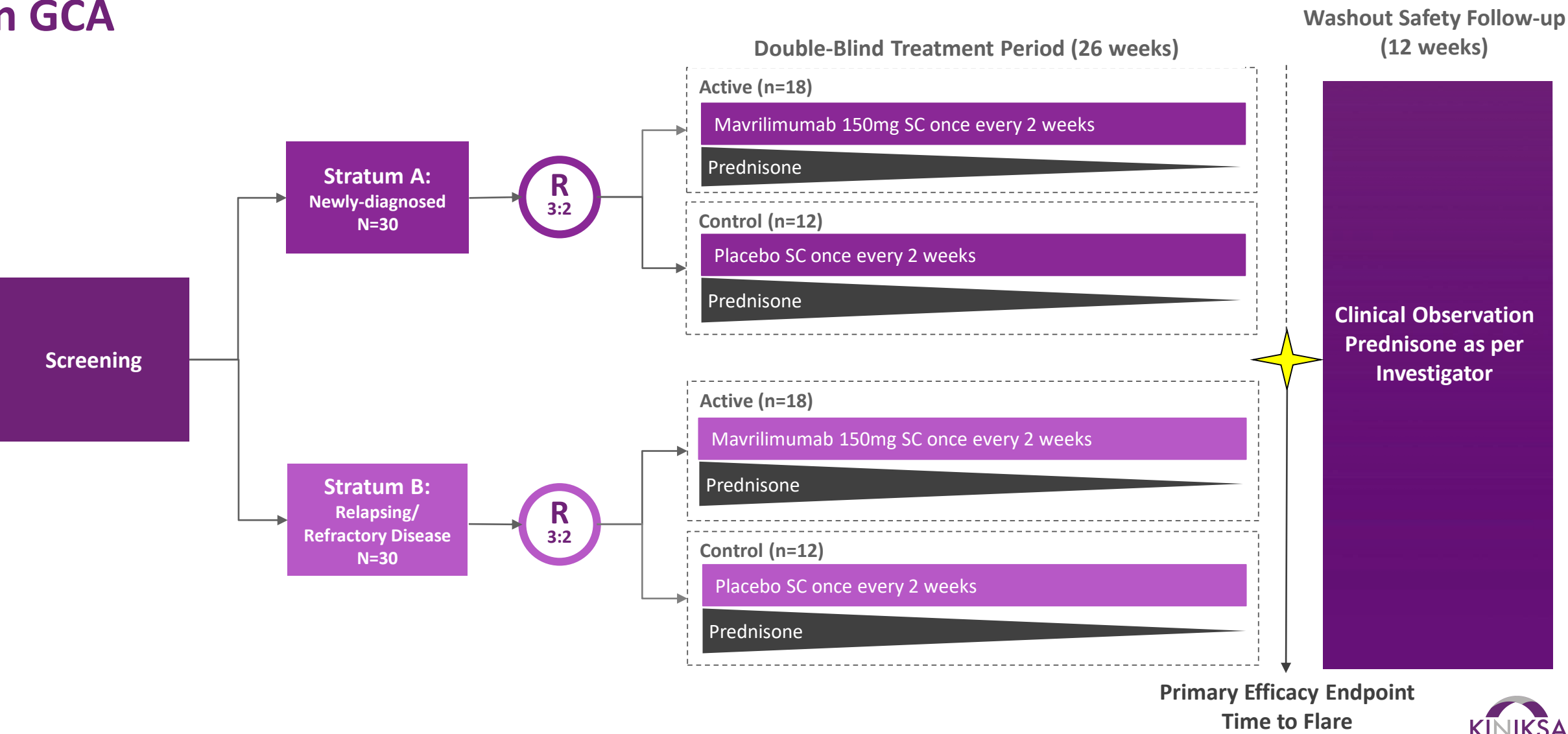
Pathophysiology of GCA is downstream from GM-CSF

Elevated GM-CSF-R α mRNA expression via RNAscope (ISH) in GCA positive biopsies



Elevated GM-CSFR α expression in all 3 layers of the artery (adventitia, media and intima) in GCA positive biopsies compared to controls.

Double-blind, randomized, placebo-controlled Phase 2 study of mavrilimumab in GCA



3

KPL-716 – Phase 2

(monoclonal antibody inhibitor targeting OSMR β)

Rilonacept

Mavrilimumab

KPL-716

KPL-045

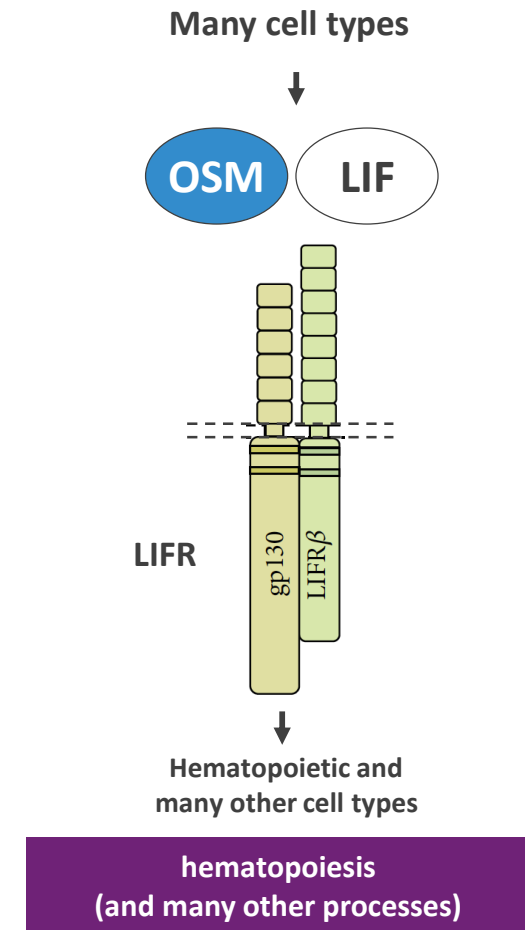
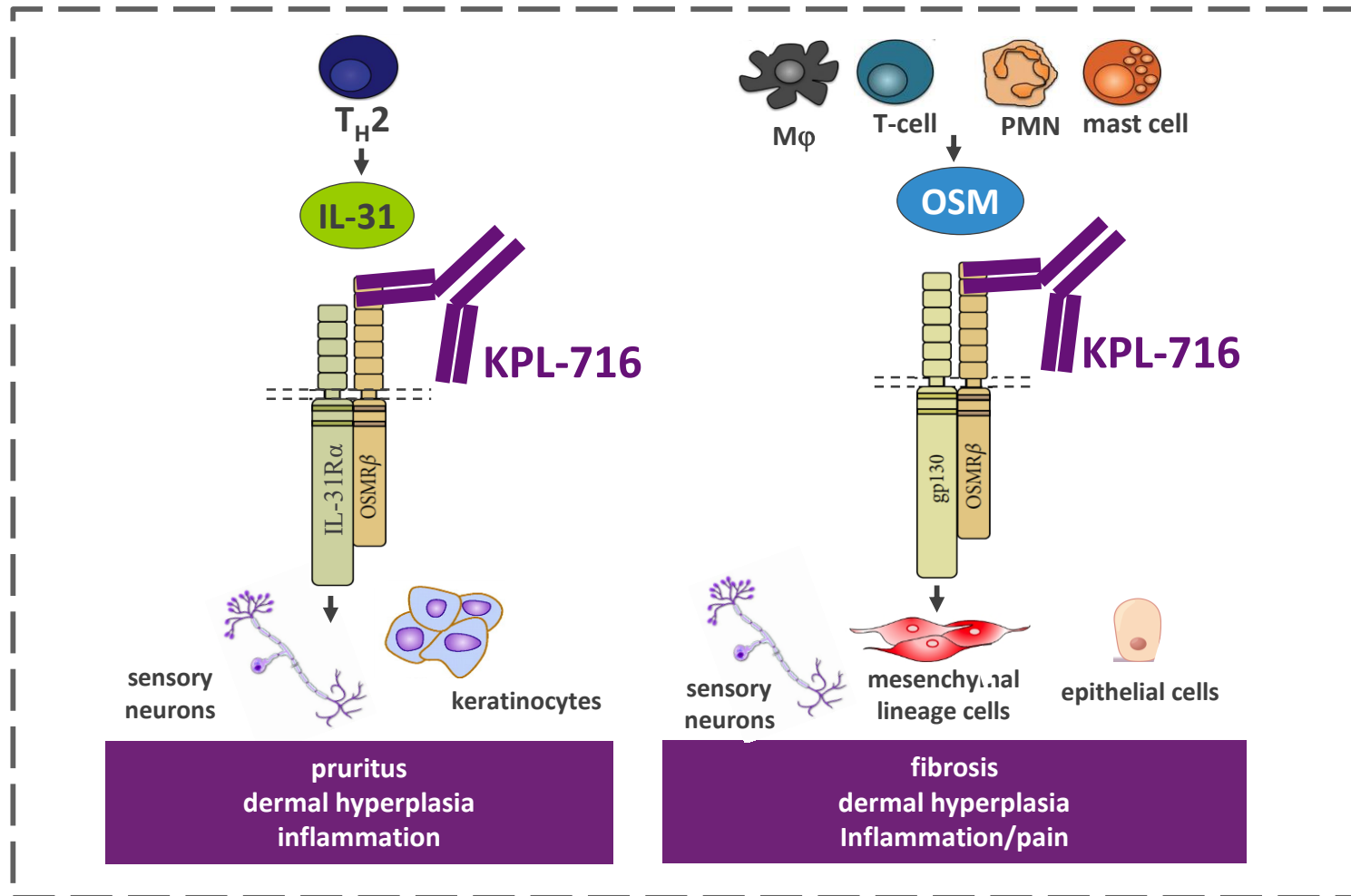
KPL-404

Differentiated molecule with potential to treat variety of pruritic, inflammatory and fibrotic indications

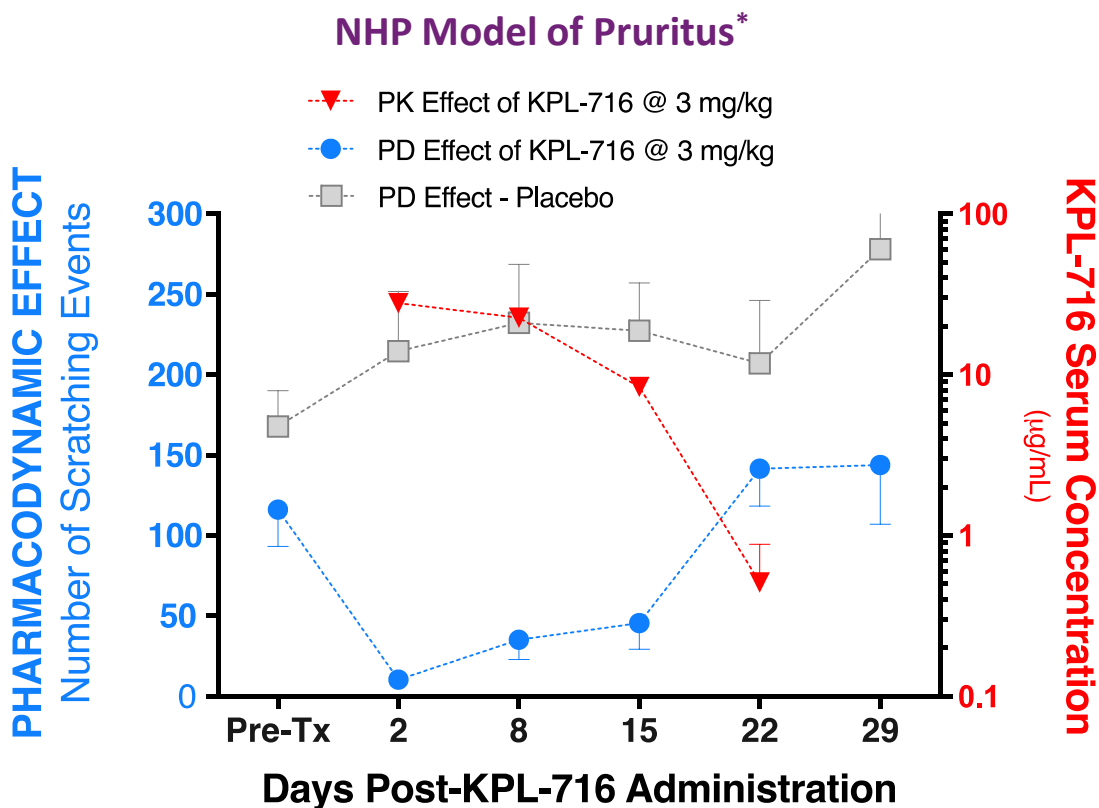
Mechanism of Action¹	Monoclonal antibody inhibitor targeting OSMR β ; a key receptor subunit shared by IL-31 and Oncostatin M
Lead Indication	Chronic pruritic diseases, including prurigo nodularis (inflammatory skin disease) and atopic dermatitis
Addressable Population²	~300k PN and ~300k moderate-to-severe AD patients eligible for systemic biologics in the U.S.
Competition³	Potential for differentiated efficacy and safety; competitors block either IL-31 or OSM activity alone
Clinical Development	Plan to advance into multiple chronic pruritic diseases; starting with a Phase 2a/2b in PN
Rights	Worldwide

1) Trinity Qualitative Interviews; 2) Trinity Consulting - HCUP/Medicare Data 2012/2013; Quantitative Survey (n=100 dermatologists); Dantas, 2015, "Prevalence of dermatoses in dermatologic evaluation requests from patients admitted to a tertiary hospital for 10 years"; Mortz et al., British Journal of Dermatology, 2001; 3) Simpson et al., N Engl J Med, 2016; Ruzicka et al., N Engl J Med, 2017; Reid et al., 2016 ACR Abstract # 1881; Cortellis

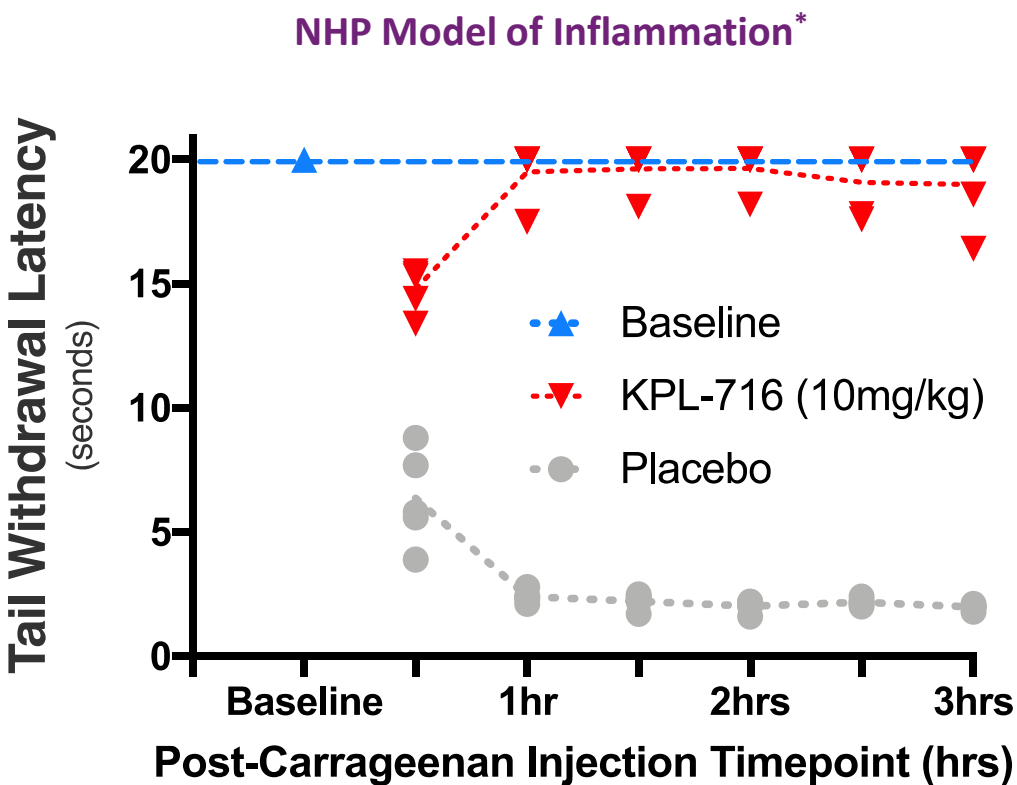
KPL-716 inhibits IL-31 & OSM signaling through OSMR β but avoids inhibiting signaling critical to hematopoiesis through OSM/LIFR



KPL-716 showed signs of potential efficacy in two validated non-human primate models of pruritus and inflammation after a single dose



A single dose of KPL-716 at 3mg/kg inhibited pruritic response driven by supraphysiologic levels of IL-31 for over 2 weeks

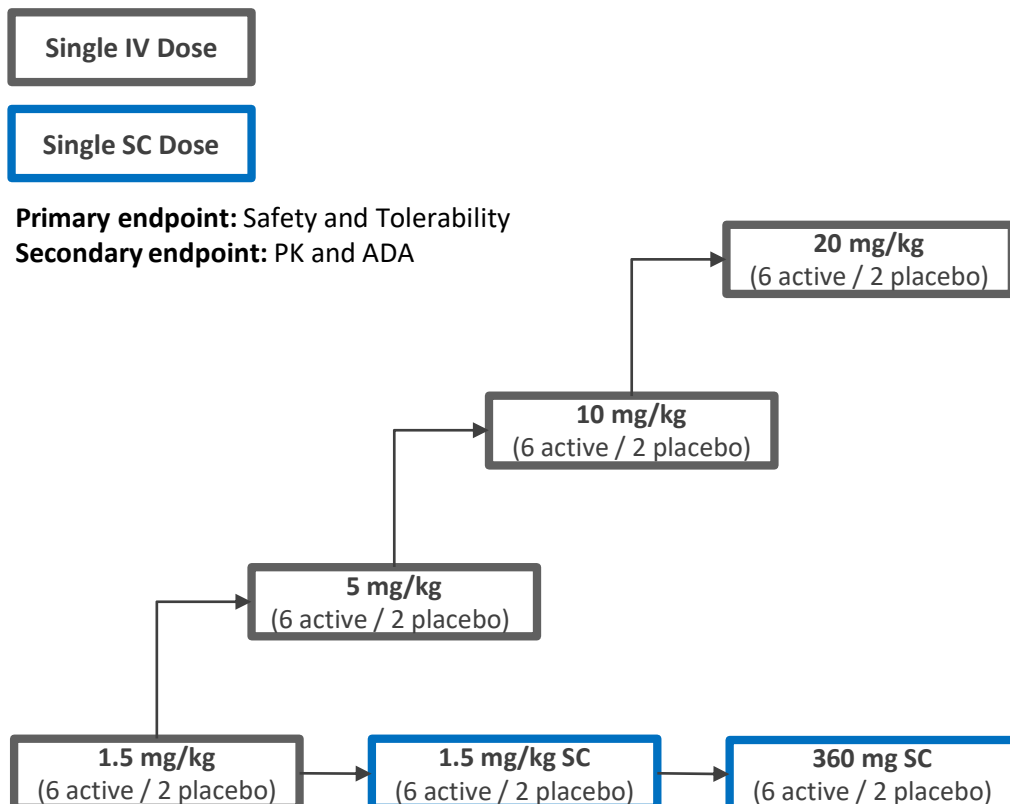


A single dose of KPL-716 at 10mg/kg increased tail withdrawal latency; implicates OSMRβ in the inflammatory response

KPL-716 placebo-controlled, single-ascending-dose Phase 1a/1b study design

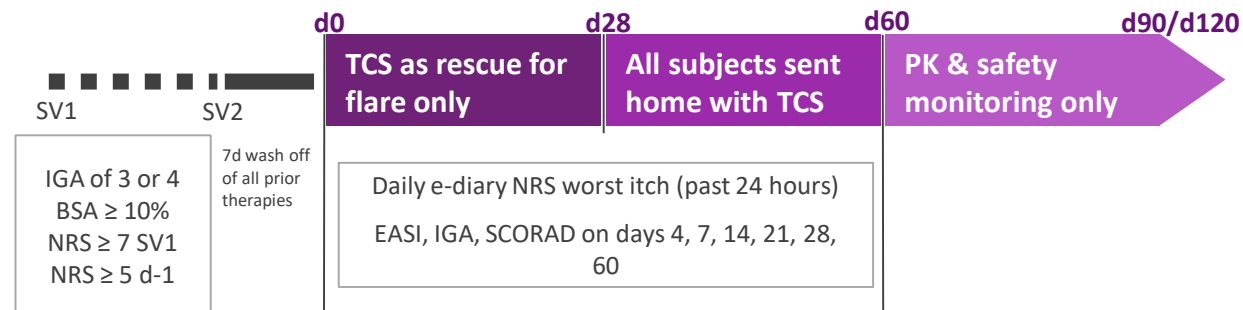
Phase 1a: Normal Healthy Volunteer (n=50)

Dose Groups

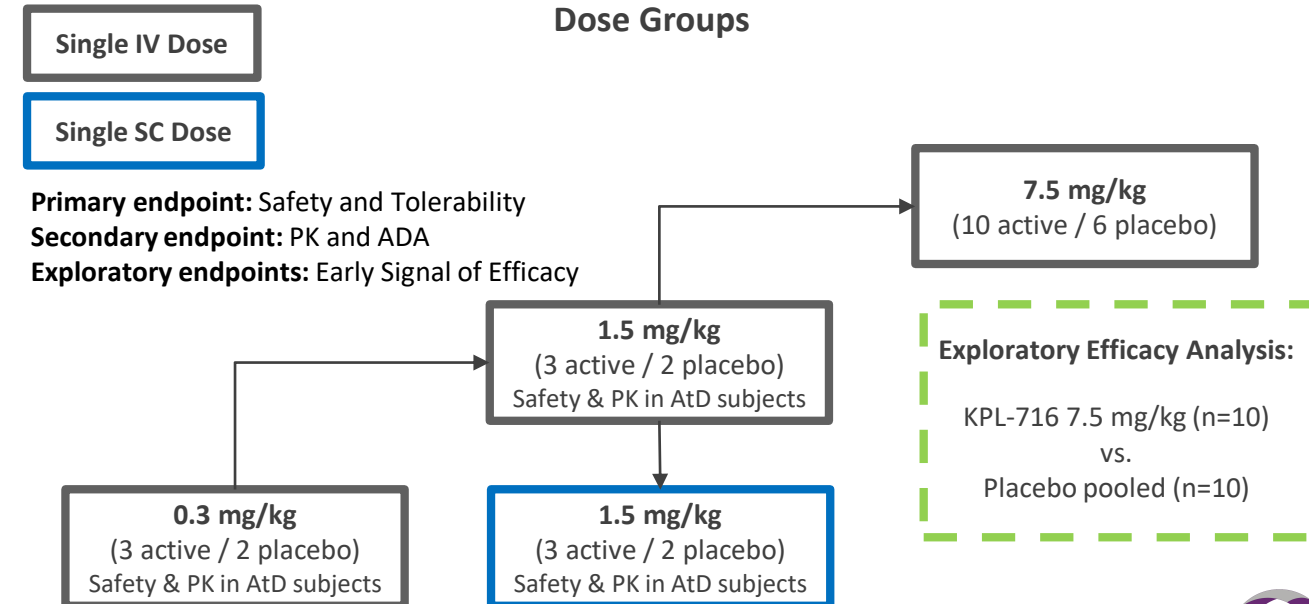


Phase 1b: Subjects with Atopic Dermatitis (n=32)

Patient Experience



Dose Groups



Baseline parameters were balanced overall

KPL-716 recipients had more atopic dermatitis flares in the year prior to enrollment, suggesting more unstable disease at baseline compared with placebo

Baseline Demographics/Disease Characteristics: AD	KPL-716 7.5 mg/kg IV	Placebo Pooled IV
Age, mean (SD), years	29.7 (11.2)	41.7 (10.9)
Male, %	50	70
White, %	70	70
Elevated IgE, %	60	60
History of any allergic disease, %	40	60
#AD flares in past year, mean (SD)	28.1 (41.6)	3.7 (3.5)
Body surface area affected by AD, mean (SD)	24.2 (8.0)	34.1 (28.0)
Weekly average WI-NRS, mean (SD)	8.0 (1.3)	8.2 (0.7)
Total EASI, mean (SD)	19.9 (7.6)	25.3 (14.1)
Total SCORAD, mean (SD)	66.7 (10.7)	60.7 (13.7)
IGA=3, %	80	80
IGA=4, %	20	20

Baseline is defined as the last measurement prior to dosing, AD = atopic dermatitis, IV = intravenous, IGA = Investigator's Global Assessment (severity scale), WI-NRS = Worst Itch Numerical Rating Scale, EASI = Eczema Area and Severity Index, SCORAD = Scoring atopic dermatitis (severity scale)

KPL-716 was well-tolerated

- No Deaths
 - No SAEs
 - No Discontinuations due to AEs
 - No Infusion Reactions
 - No Injection Site Reactions
- No Thrombocytopenia
 - No Peripheral Edema
 - No Conjunctivitis
- Drug-Related Treatment Emergent Adverse Events (DR-TEAEs) infrequent and not related to dose
 - All resolved without sequelae

Normal Healthy Volunteers

AE	KPL-716 (IV)					Placebo (IV)		KPL-716 (SC)		Placebo (SC)	
	1.5 mg/kg n=6	5 mg/kg n=6	10 mg/kg n=6	20 mg/kg n=6	Pooled n=8			1.5 mg/kg n=6	360 mg n=7	Pooled n=5	
DR-TEAE	0	Mild headache (n=1)	0	0	0			Mild flushing (n=1)	Mild anemia (n=1)	0	

Subjects with Atopic Dermatitis

AE	KPL-716 (IV)				Placebo (IV)		KPL-716 (SC)		Placebo (SC)	
	0.3 mg/kg n=3	1.5 mg/kg n=3	7.5 mg/kg n=10		Pooled n=10		1.5 mg/kg n=4	Pooled n=2		
DR-TEAE*	0	Mild headache (n=1), Decreased appetite (n=1)	Moderate dizziness (n=1)		Mild somnolence (n=1)		Mild dizziness (n=1)	0		
AD flare	1	0	2		3		0	0		
Study day of AD flare	7	N/A	14, 20		1, 5, 45		N/A	N/A		

* The only moderate DR-TEAE occurred after a protocol violation.

Exploratory efficacy endpoints and analysis plan

Efficacy Endpoints

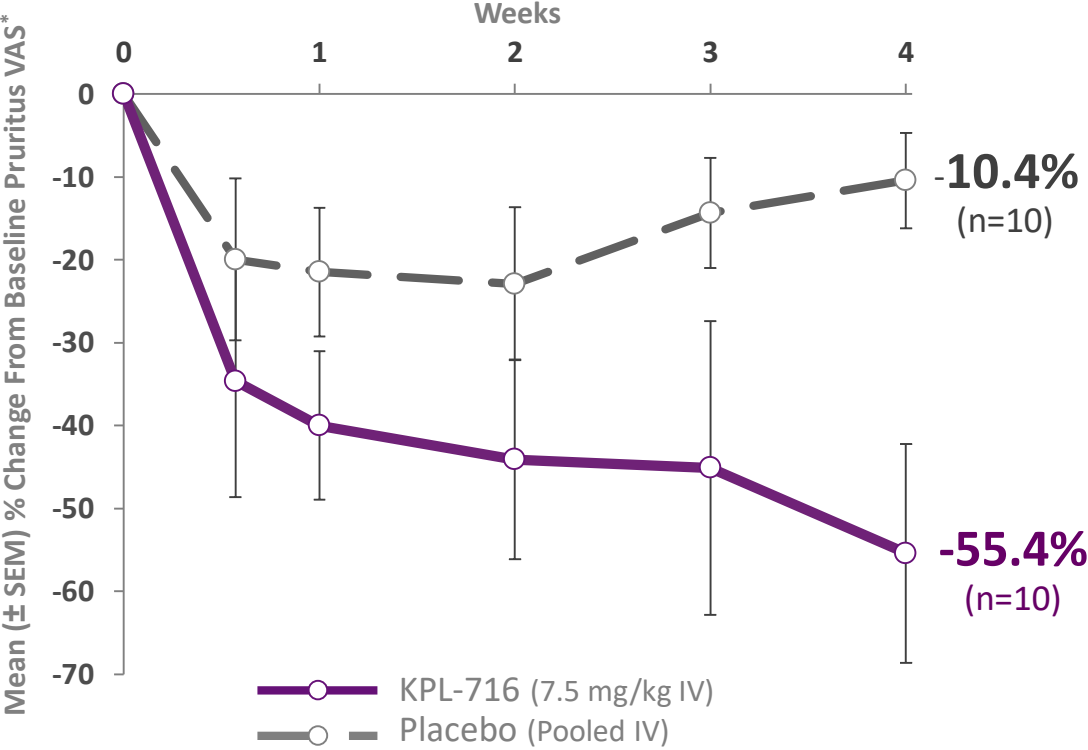
- **Pruritus:**
 - Weekly average of daily WI-NRS (worst itch in past 24 hours) collected by daily eDiary
 - Pruritus Visual Analog Scale, a component of SCORAD (average itch in past 3 days) collected at study visits
 - **Sleep loss VAS:**
 - A component of SCORAD (average sleep loss in past 3 nights)
 - **Eczema Area Severity Index (EASI)**
-

Efficacy Analysis

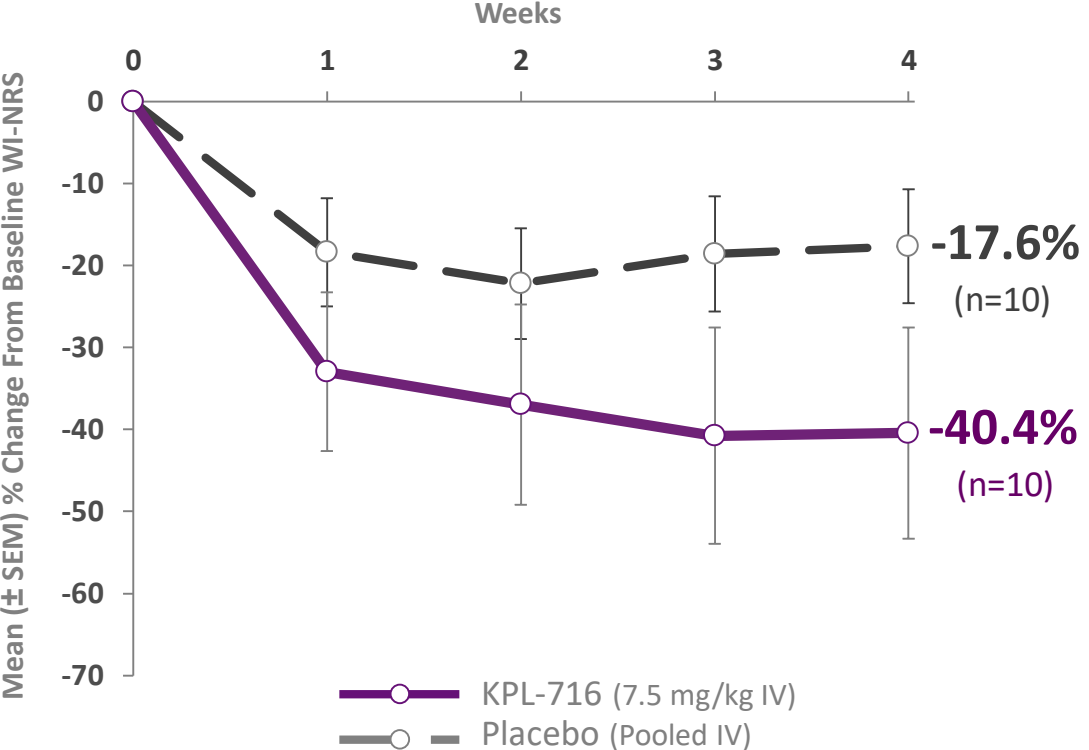
- **10 KPL-716 subjects (7.5 mg/kg IV) versus 10 placebo subjects (pooled IV) from baseline to Day 28**
- **“Last Observation Carried Forward” approach used for data values after rescue medication administered. Subject was considered non-responder after rescue (responder analysis).**
 - Two KPL-716: 2 AD flares (d15 and d21)
 - Three placebo: 2 AD flares (d3, d14), 1 anti-histamine use for upper respiratory infection (d26)
- **Similar results obtained if data values after rescue medication administration were included or excluded**

Single doses in Phase 1a/1b were well-tolerated, provided evidence of target engagement and showed reduction in pruritus over the 28-day monotherapy period

Pruritus Visual Analog Scale (VAS)*



Weekly Average Worst Itch Numerical Rating Scale (WI-NRS)

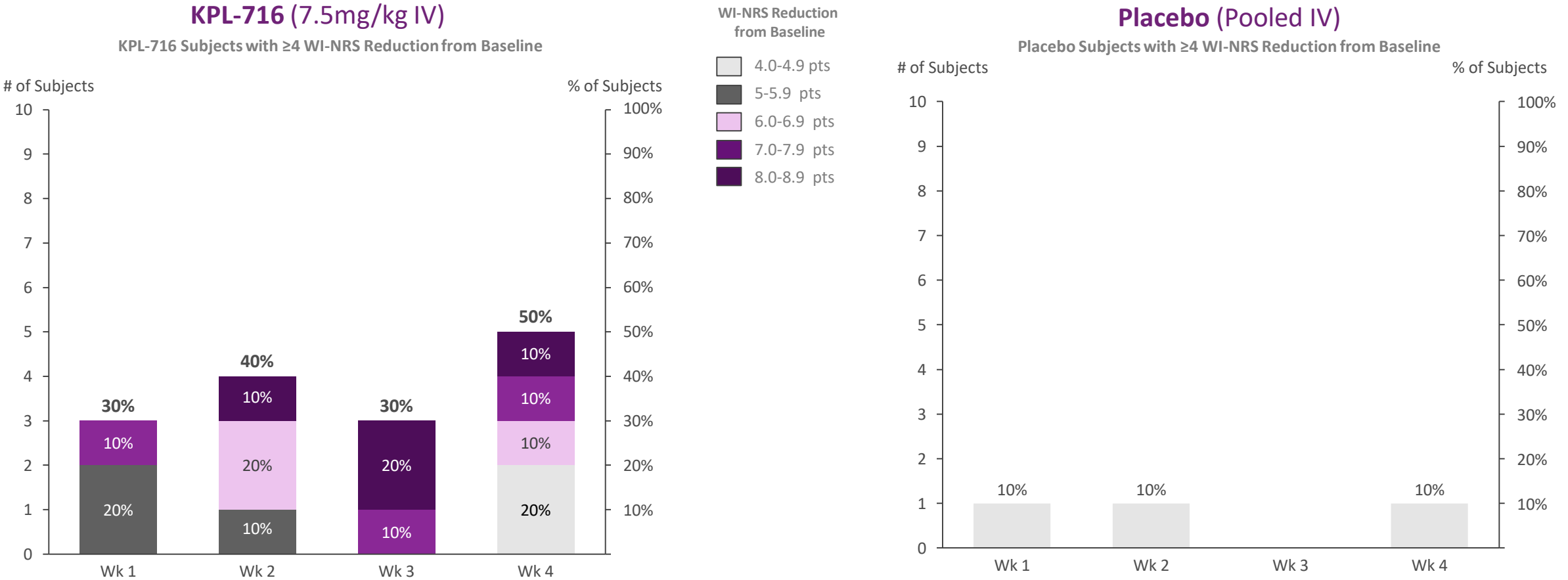


In subjects who received rescue medication, last observation was carried forward. Two KPL-716 recipients (d15, d21) and three placebo recipients (d3, d14, d26)

* VAS = Visual Analog Scale and a component of SCORAD (Scoring atopic dermatitis) severity scale



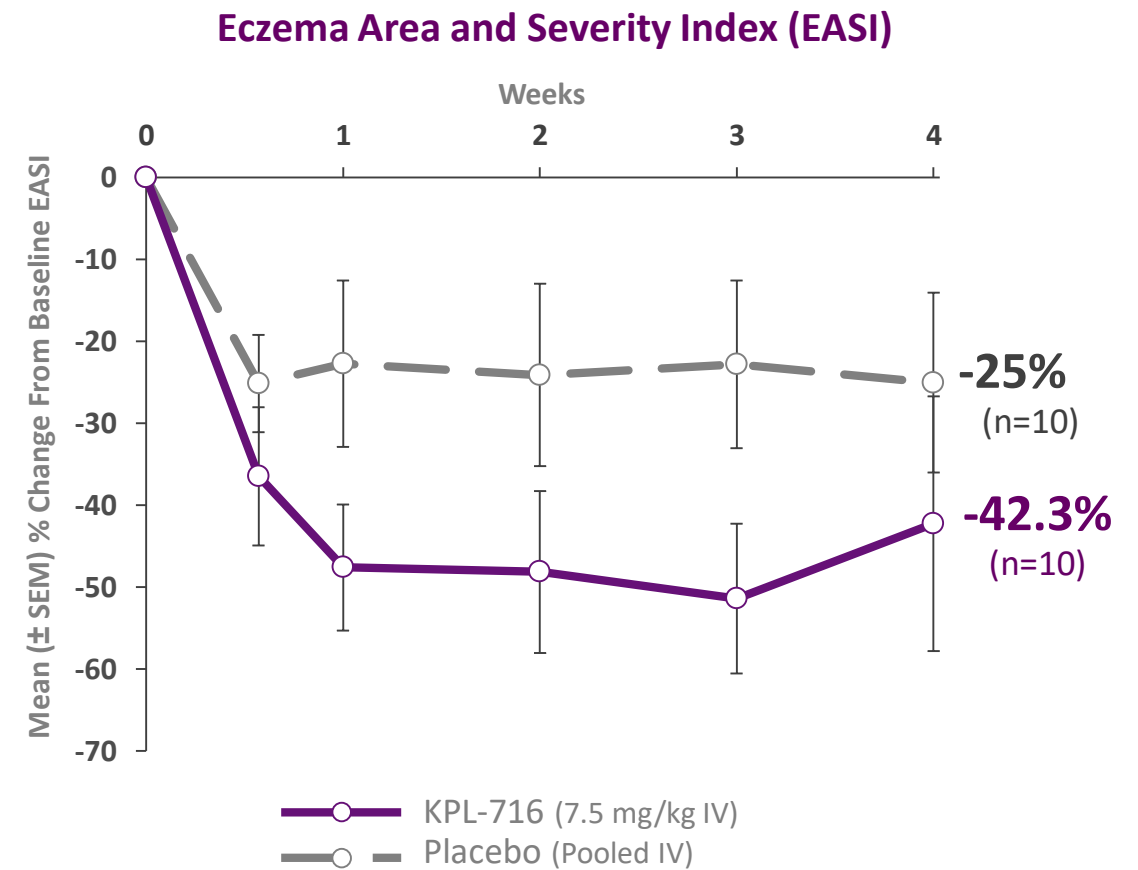
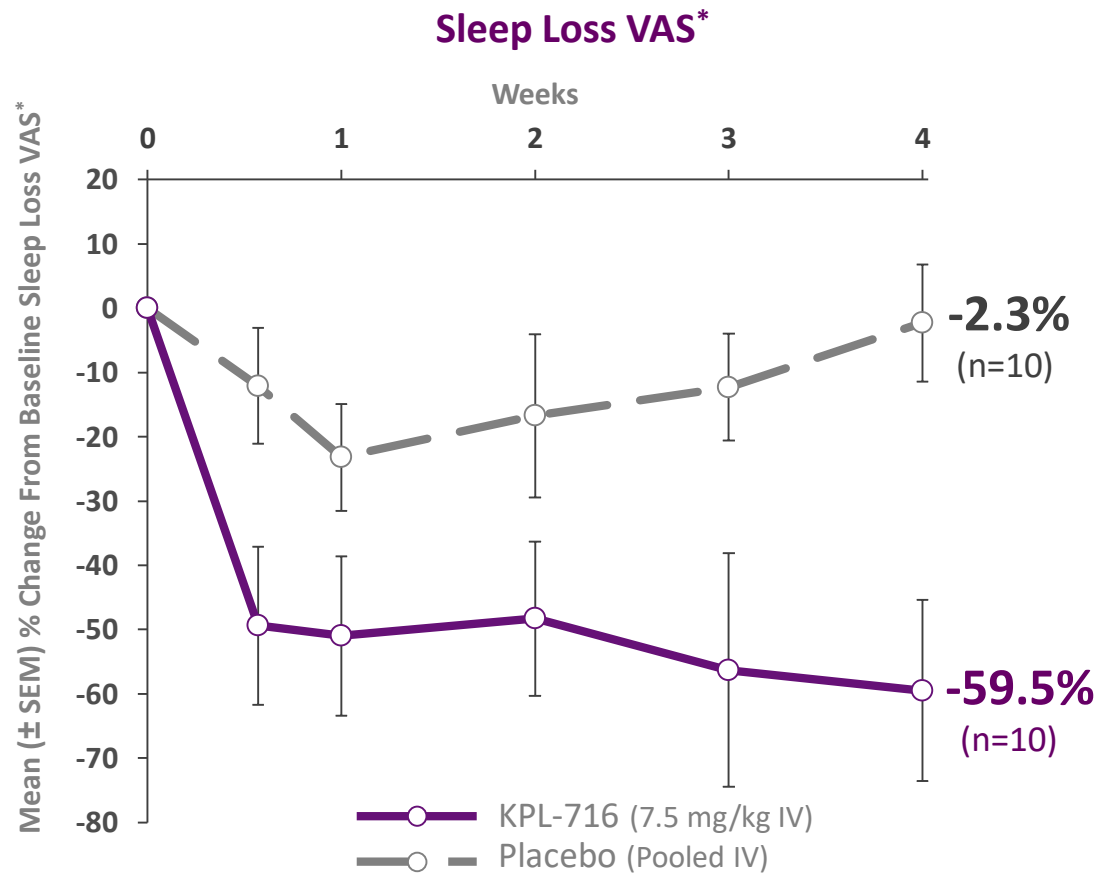
The maximum decrease in WI-NRS at day 28 in the absence of concomitant TCS was ≥ 8-points in KPL-716 recipients compared to 4-points in placebo



Subject was considered non-responder after rescue. Two KPL-716 recipients (d15, d 21) and three placebo recipients (d3, d14, d26).



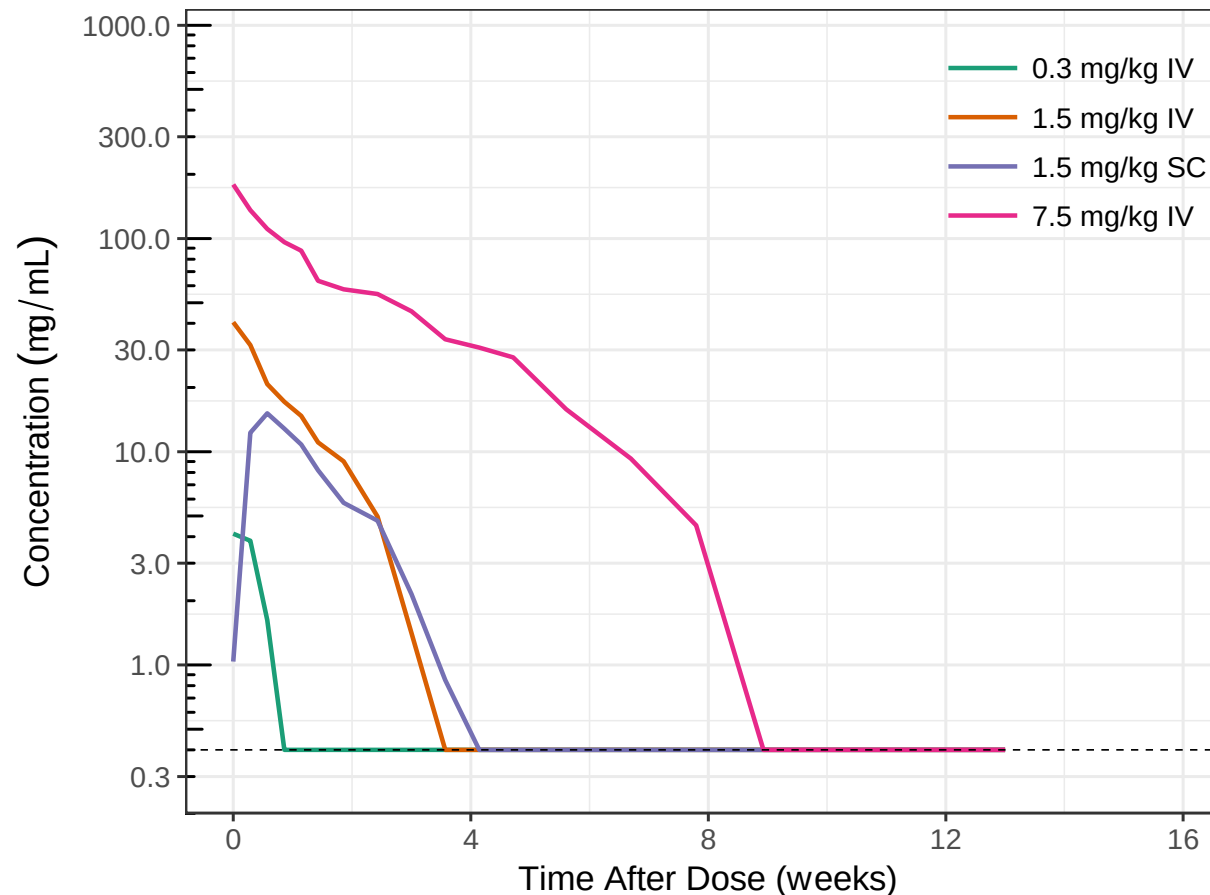
Single doses in Phase 1a/1b showed reduction in sleep loss and disease severity over the 28-day monotherapy period



In subjects who received rescue medication, last observation was carried forward. Two KPL-716 recipients (d15, d21) and three placebo recipients (d3, d14, d26)

KPL-716 demonstrated dose-dependent elimination consistent with a target mediated drug disposition profile

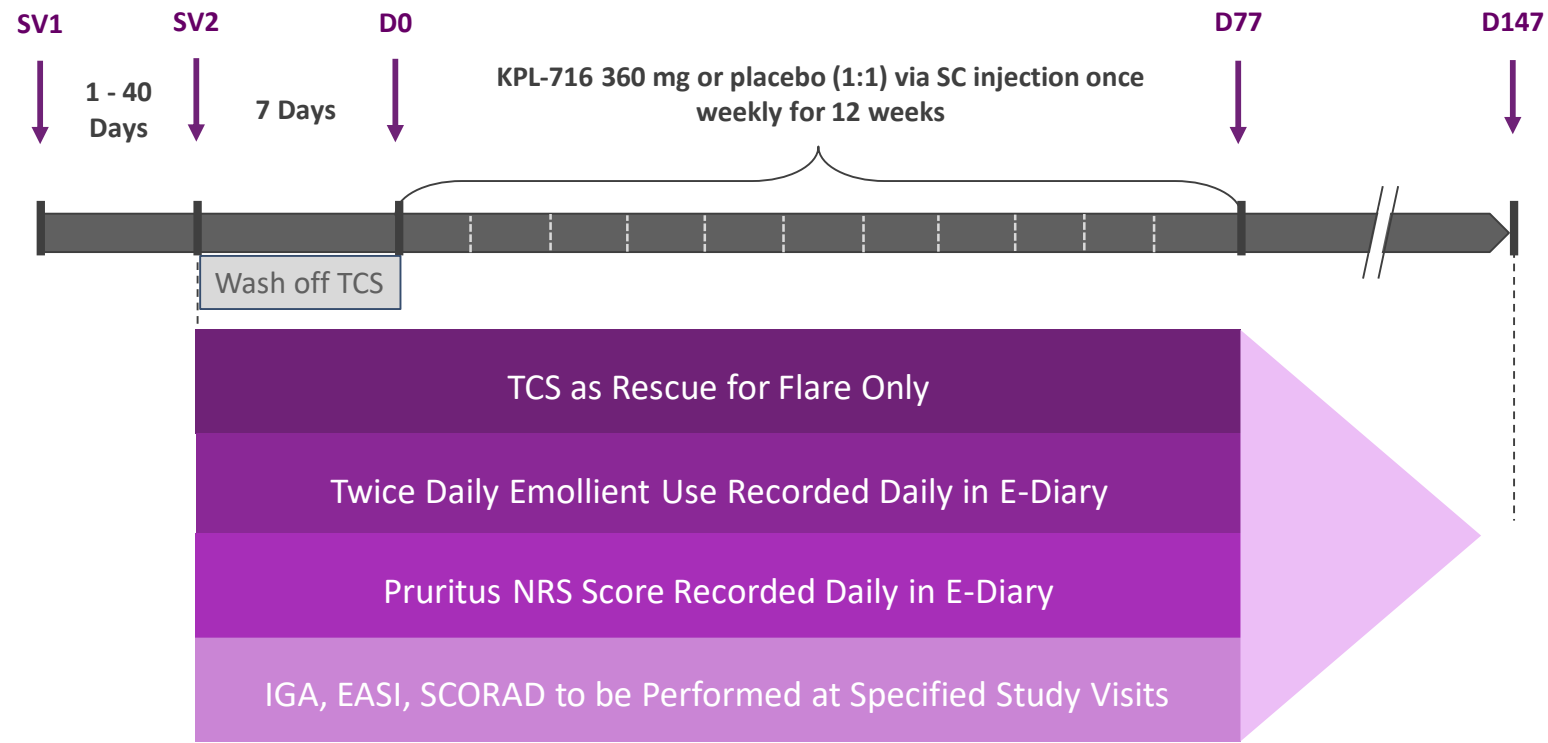
7.5 Mg/Kg IV dose level was detectable through at least 8 weeks



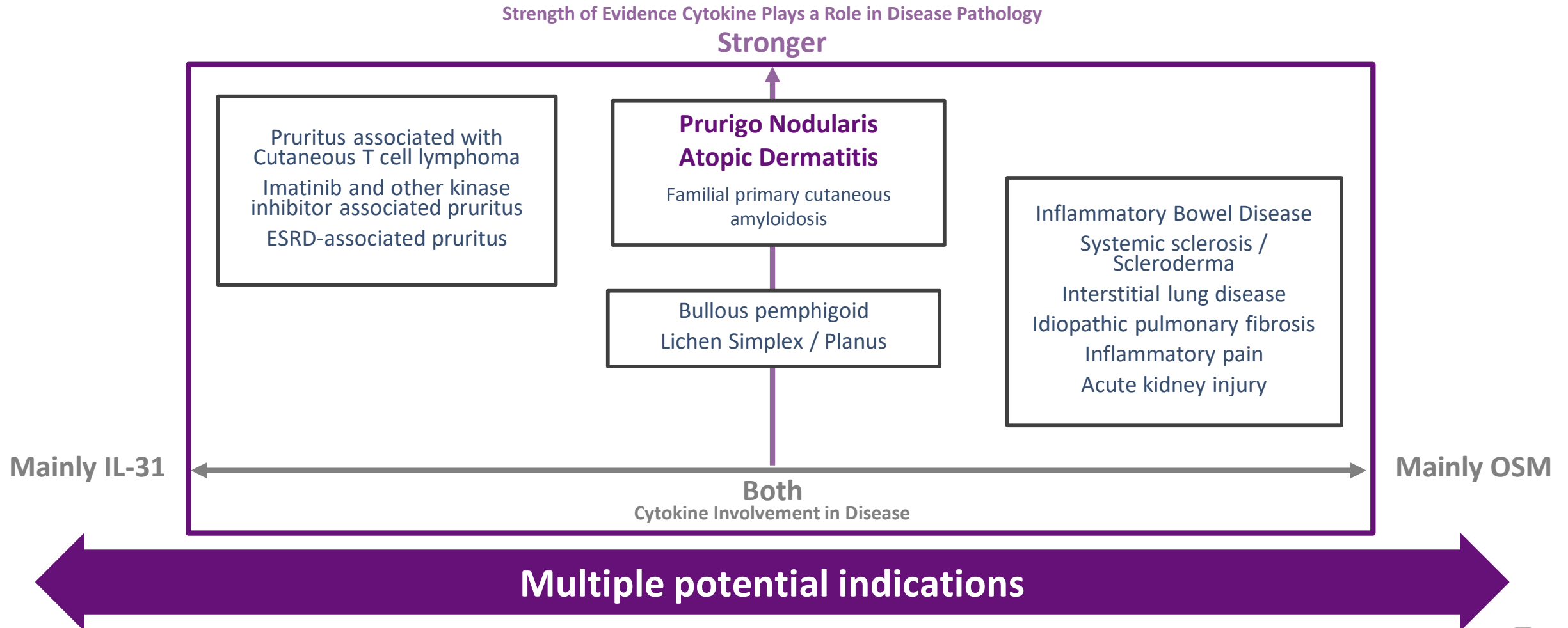
KPL-716 placebo-controlled repeated-single-dose Phase 1b study design

Key Inclusion Criteria:

- IGA of 3 or 4
- BSA ≥ 10%
- EASI ≥ 12
- NRS ≥7 at SV1
- NRS ≥5 at d0



Inhibiting OSMR β signaling could impact a variety of diseases characterized by pruritus and/or barrier dysfunction and fibrosis



4

KPL-045 – Preclinical

(monoclonal antibody targeting CD30L)

Rilonacept

Mavrilimumab

KPL-716

KPL-045

KPL-404

Fully-human monoclonal antibody inhibitor of signaling between CD30 and CD30L

- Key T-cell co-stimulatory receptor involved in activated effector-memory function
- CD30L is expressed at high levels on activated T cells
- Proof-of-mechanism established in mice and non-human primates
- Continuing preclinical activities

Rilonacept

Mavrilimumab

KPL-716

KPL-045

KPL-404

Modulates central control node of T-cell-dependent, B-cell mediated antibody response

- **Potential best-in-class molecule for a variety of autoimmune diseases**
- **Antigen presenting cells express and require signaling through CD40 for activation**
- **Proof-of-mechanism established in non-human primates**
- **Continuing preclinical activities**

Kiniksa at a glance

Corporate Highlights



Bermuda-Based Corporate Entity

5

Pipeline Programs

>180

Issued Patents

Financial Highlights

\$490M

Gross Proceeds Raised to Date

\$338M

Cash and Short-Term Investments*

49.5M

Shares Outstanding

*Capital Allocation to Highest Value Opportunities Across Existing Portfolio,
Internal R&D and Business Development*

Continued execution and momentum in 2019

2018 Goals



Rilonacept

Report interim Phase 2 data
Start pivotal Phase 3 clinical trial



Mavrilimumab

U.S. IND and global regulatory submissions
Start global Phase 2 clinical trial (GCA)



KPL-716

Report Phase 1a/1b data
Start repeated-single-dose Phase 1b clinical trial



KPL-045

IND enabling studies



KPL-404

IND enabling studies

2019 Goals



Rilonacept

Enroll in pivotal Phase 3 clinical trial
Outline commercial strategy



Mavrilimumab

Enroll in global Phase 2 clinical trial (GCA)
Announce additional indication



KPL-716

Advance into multiple chronic pruritic diseases
Report repeated-single-dose-data



KPL-045

File IND



KPL-404

File IND



Relentless. Passionate. Focused. TM