



# Corporate Presentation

September 2024

## **Rēclūdo (Latin)**

*transitive verb III conjugation*

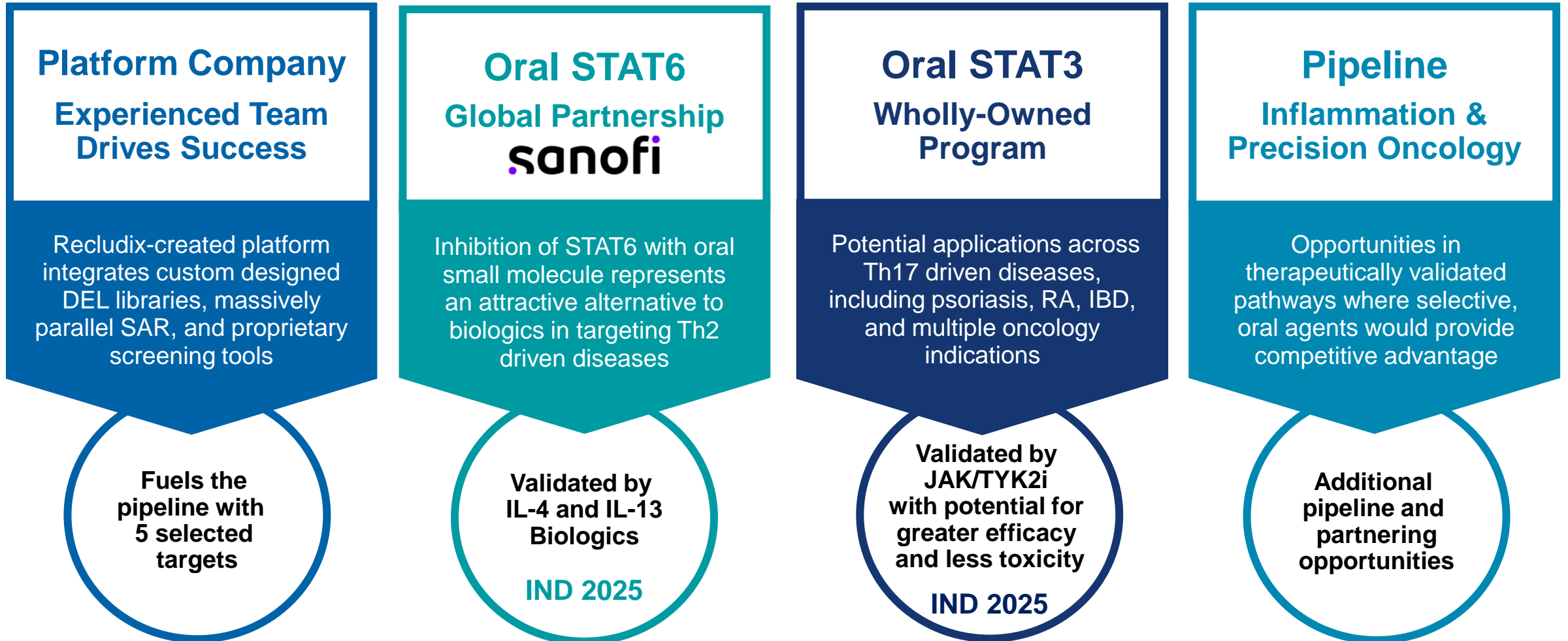
*1 to open*

*2 to open up, to disclose, to reveal, to unlock*

# Unlocking New Therapeutic Possibilities



# Unlocking Previously Undruggable SH2 Domains of High Value Targets in Inflammatory Diseases and Cancer



# Expanded Leadership Team



**Nancy Whiting, Pharm.D.**

CEO

Seagen, GSK  
Adcetris<sup>®</sup>, Tukysa<sup>®</sup>, Padcev<sup>®</sup>, Tivdak<sup>®</sup>



**Ajay Nirula, M.D., Ph.D.**

EVP, Head R&D

Lilly, Amgen, Biogen Idec, Merck  
Rituxan<sup>®</sup>, Tecfidera<sup>®</sup>, Siliq<sup>®</sup>, Taltz<sup>®</sup>, Olumiant<sup>®</sup>, Omvoh<sup>®</sup>, Ebglyss<sup>®</sup>



**Matt Caldemeyer, MBA**

CBO

Everest Medicines, Ambrx, Array BioPharma, Amgen, Lilly



**Catherine Bovenizer, C.P.A.**

SVP, Finance

Renova, Apricus, Ambit, Senomyx, Ligand, GeneFormatics



**Brian Hodous, Ph.D.**

SVP, Chemistry

Accent, Blueprint, Merck-Serono, Amgen, MIT  
Ayvakit<sup>™</sup>



**Daniel Treiber, Ph.D.**

SVP, Discovery Technology

Eurofins, Discoverx, Ambit, MIT  
Vanflyta<sup>®</sup>



**Paul Smith, Ph.D.**

SVP, Biology

Connect Biopharma, Incyte, Merck Serono, Novartis  
Opelurza<sup>™</sup>



**Nick Lydon, Ph.D.**

Co-Founder, Board Member

Blueprint, AnaptysBio, Ambit, Amgen, Kinetix,  
Novartis/CIBA-GEIGY  
Gleevec<sup>®</sup> (imatinib), Lasker-DeBaakey Award, Japan Prize

## \$102M Series A



**Nick Lydon**

## Strategic Collaboration to Advance Novel Oral STAT6 SH2 Domain Inhibitor

- Recludix will conduct preclinical research and early clinical development
- Sanofi will assume worldwide clinical development and commercialization from Phase 2 onwards
- Up to double-digit royalties on future sales
- Recludix has certain U.S. co-promotion activities

**\$125M**

Near-term payments

**50%**

Option to participate in 50% U.S. Profit Share

**>\$1.2B**

Potential future development and sales milestones

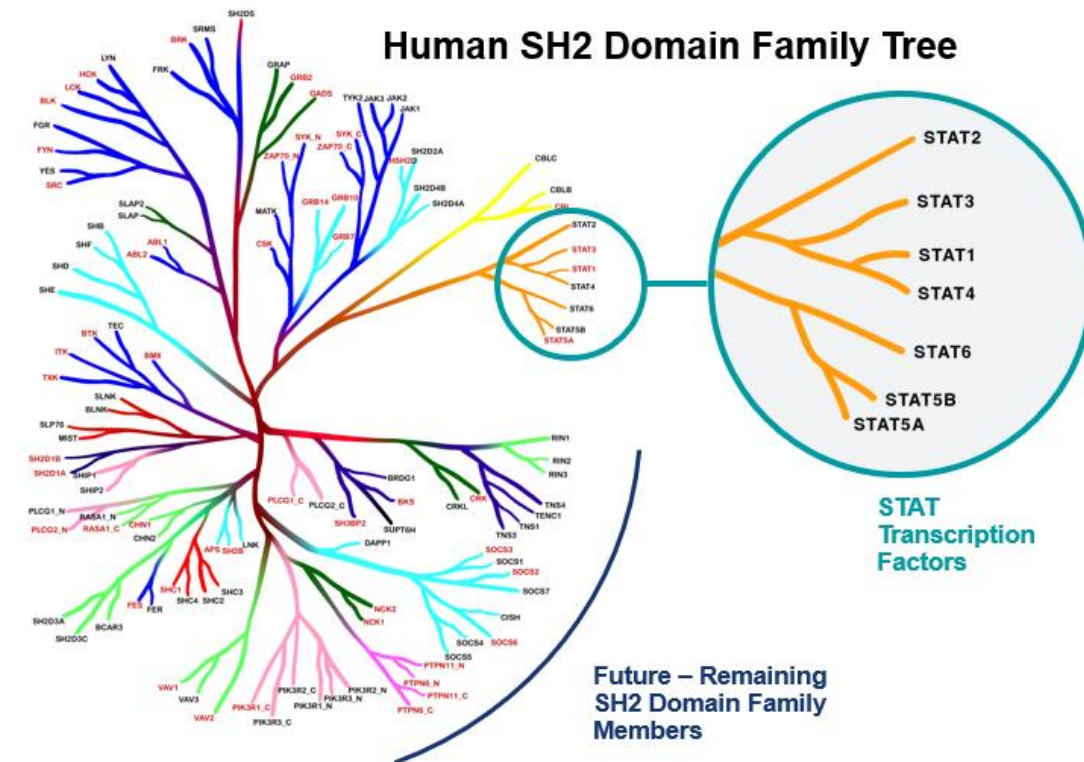
***Validates Recludix Approach to Developing Selective Oral STAT SH2 Domain Inhibitors***

# SH2 Domains Have Previously Been Deemed “Undruggable”

Significant opportunity in targeting SH2 domain proteins

Src Homology 2 (SH2) domains are highly conserved protein domains that have long been recognized as attractive drug targets

- Small protein modules made up of ~100 amino acids
- 120 human SH2 domains
- Play a key role in mediating protein-protein interactions
- The SH2 domain of STAT proteins is required for
  - Binding to cytokine receptors via the SH2 domain and phospho-tyrosine motifs on the receptor
  - Dimerization of STAT proteins occurs by reciprocal interactions with each monomer's SH2 domain; STAT DNA binding and transcriptional activity requires dimerization



Molecular Cell (2006) vol. 22, p.851

# Recludix Platform: Integrated Proprietary Technologies & New Chemical Approaches

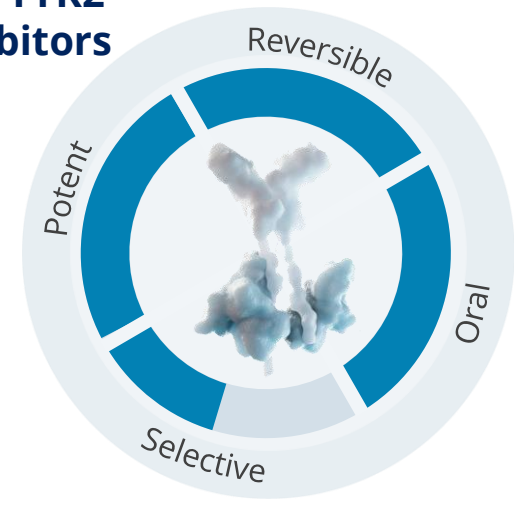


# STAT SH2 Domain Inhibition Enables a Best-in-Class Product Profile

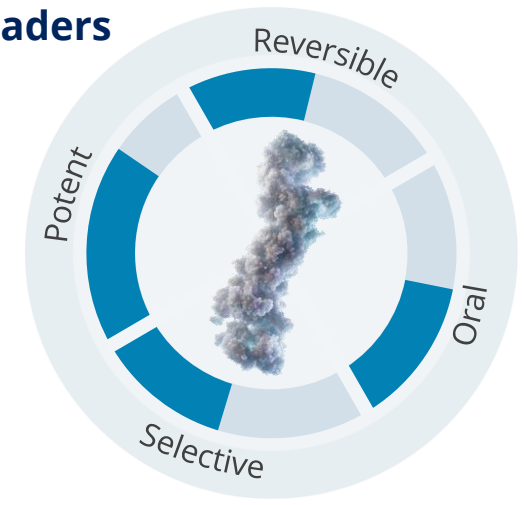
## Differentiated Product Profile



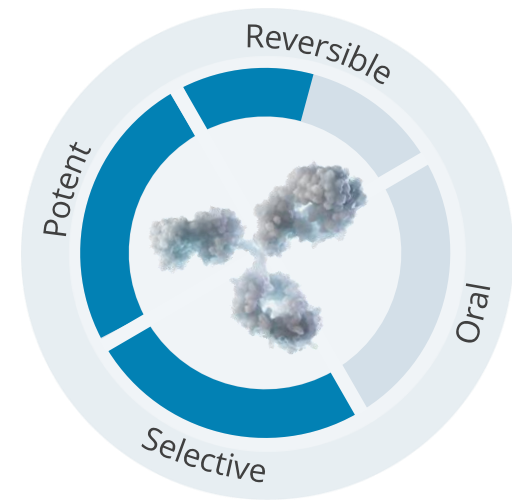
### JAK/TYK2 Inhibitors



### Degraders



### Biologics

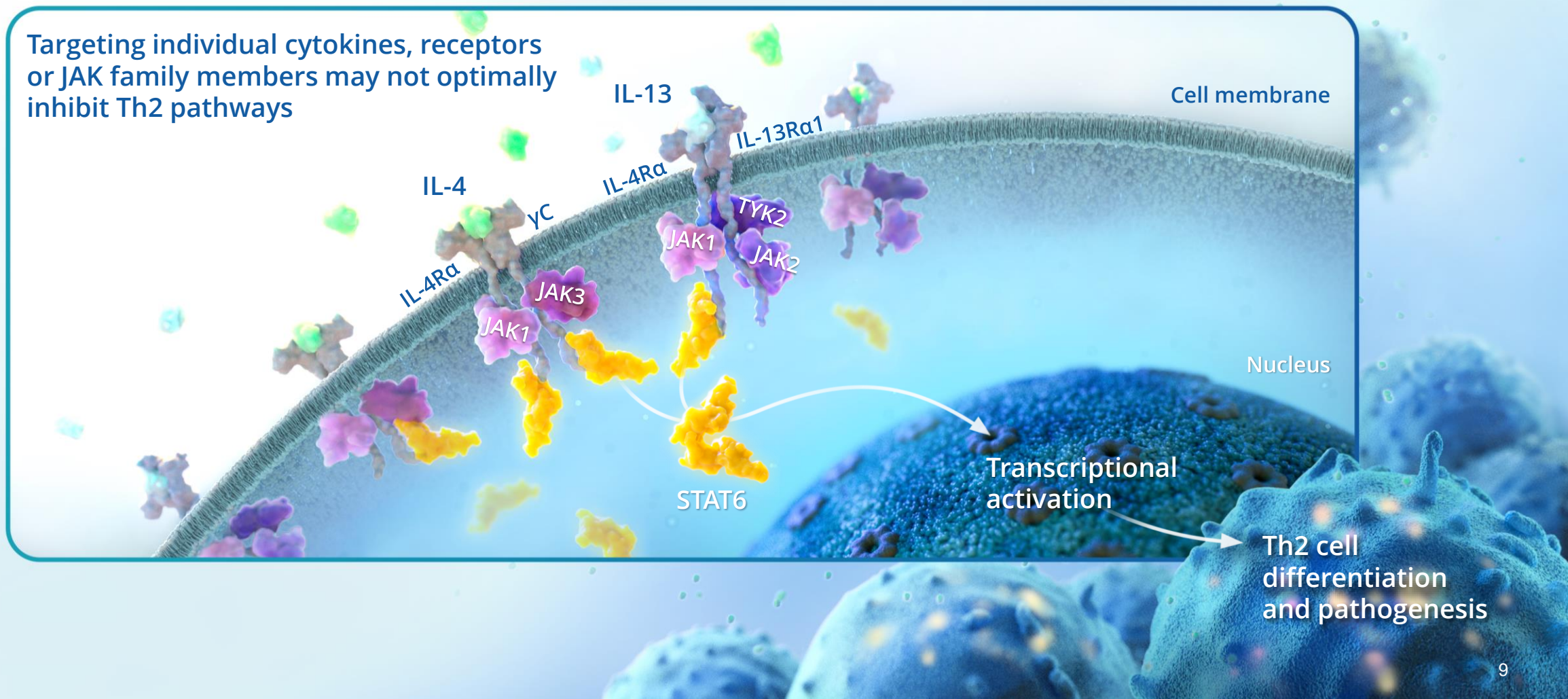


# STAT6



# STAT6 is a First- and Best-In-Class Opportunity to Selectively Target Th2 Inflammatory Disease Pathways

STAT6 mediates IL-4 and IL-13 signaling, two key inflammatory drivers of atopic dermatitis, asthma & COPD



# STAT6 Early Lead Compound REX-4671 is Potent and Selective in Biochemical and Cellular Assays

Current lead compounds further optimized

## REX-4671

**Biochemical Potency**  
(SH2scan  $K_D$ )

0.025 nM

**Cellular Potency**  
(pSTAT6  $IC_{50}$  in human PBMCs)

1.3 nM

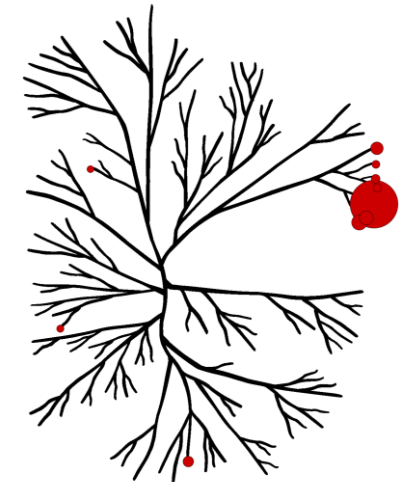
**Biochemical STAT Family Selectivity**

>1,000X vs.  
STAT1/2/3/4/5

**Cellular Selectivity**  
(PBMCs)

>1,000X  
vs. STAT1/2/3/4/5

**SH2 Domain Selectivity**



# STAT6 Inhibitor Phenocopies Dupilumab In Functional Assays and Differentiates From JAK Inhibitors

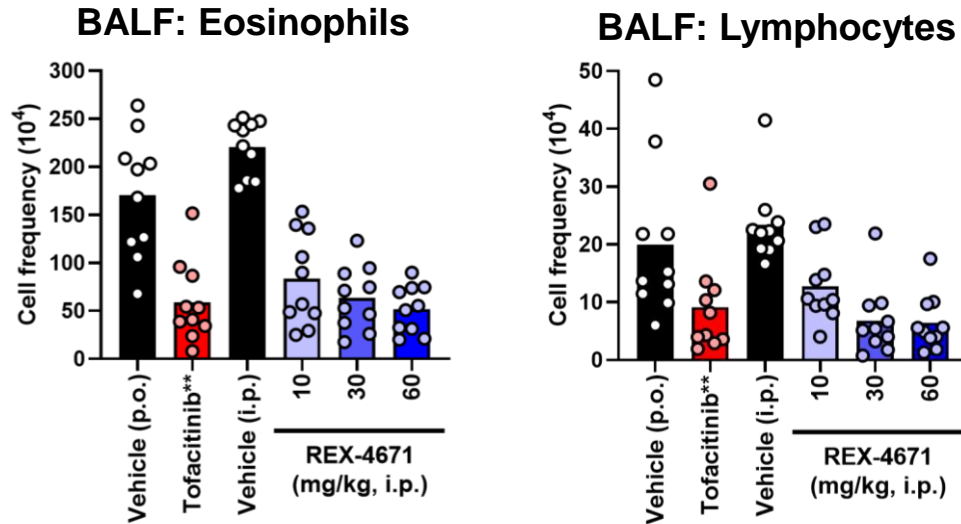
Direct selective STAT6 inhibition provides greater selectivity than currently approved JAK inhibitors

		T cell function				Hematologic homeostasis	
		General Adaptive Immune response	Defense against viruses and bacteria	Defense against extracellular pathogens	Defense against parasites and mediation of antibody responses	Erythropoiesis	Thrombopoiesis
		T Cell Activation (CD25)	Th1 Cell Function (IFN $\gamma$ )	Th17 Cell Function (IL-17A)	Th2 Cell Function (IL-5)	EPO-Induced STAT5-Driven Transcription	TPO-Induced STAT5-Driven Transcription
<b>STAT6 Inhibitor</b>	<b>REX-4671</b>	>10,000 nM	>3,000 nM	>10,000 nM	20 nM	>10,000 nM	>10,000 nM
<b>IL-4/IL-13 Antagonist</b>	Dupilumab	>10,000 nM	>1,000 nM	>1,000 nM	22 nM	>1,000 nM	>1,000 nM
<b>JAK Inhibitors</b>	Abrocitinib	1,300 nM	900 nM	81 nM	81 nM	3,200 nM	2,800 nM
	Upadacitinib	39 nM	36 nM	8.0 nM	4.4 nM	69 nM	20 nM
	Baricitinib	110 nM	210 nM	15 nM	15 nM	56 nM	42 nM

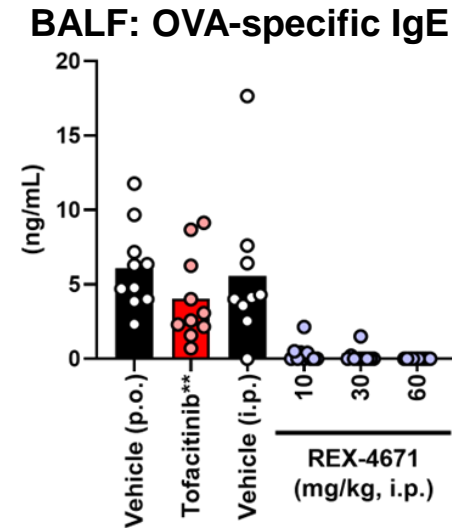
Selectivity relative to Th2 inhibition:  >30X  10-30X  <10X

# Reduction of Lung Inflammation in Ovalbumin Asthma Model

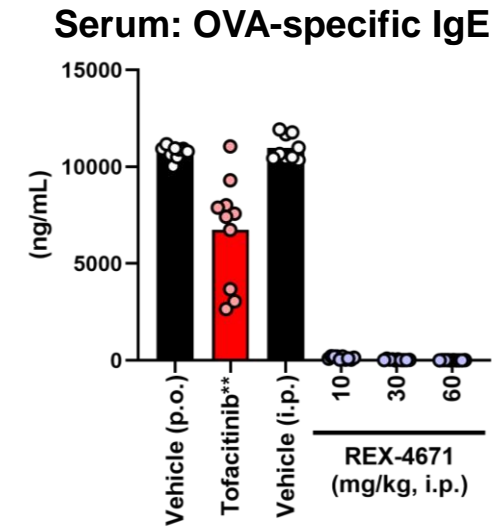
## Lung immune cell infiltration



## Lung IgE immunity



## Systemic IgE immunity



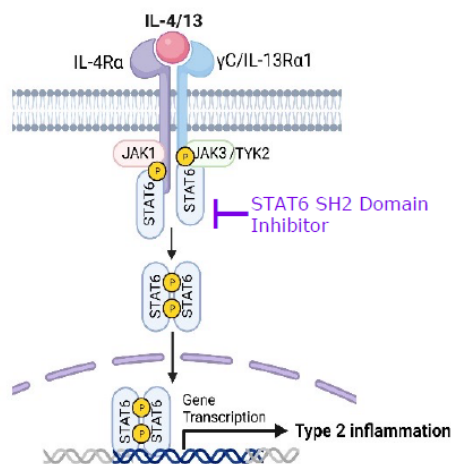
\*\*Tofacitinib 30 mg/kg p.o.

- Prophylactic REX-4671 treatment reduced pathogenic immune cell infiltration and IgE levels
- Improvements in lung function and histopathology in REX-4671 treated animals also observed
- REX-4671 abrogates serum IgE immunity, a clinical biomarker of treatment response in asthma and dermatitis

# Oral STAT6 Compounds Characterized by Selective and Sustained Target Inhibition

Program partnered with Sanofi

## STAT6 pathway inhibitor: an *oral* small molecule that blocks type 2 IL-4 and IL-13 pathways



*STAT6 SH2 domain inhibitors selectively target type 2 cellular responses and differentiate from JAK inhibitors*

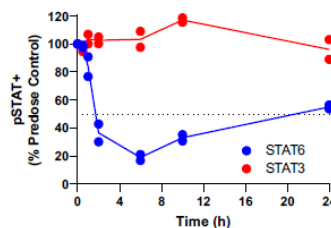
### T Cell Function (IC50)

	STAT6 inhibitor	IL-4/13 antagonist <sup>1</sup>	JAK inhibitor <sup>1</sup>
Th2	26nM	26nM	4nM
Th17	>100X	>35X (highest tested)	2X
Th1	>100X	>35X	9X

### Hematological homeostasis

	STAT6 inhibitor	IL-4/13 antagonist <sup>1</sup>	JAK inhibitor <sup>1</sup>
EPO-STAT5	>300X	>35X	17X
TPO-STAT5	>300X	>35X	5X

*Durable and selective pSTAT6 inhibition following single oral dose of STAT6 SH2 domain inhibitor in preclinical model*



STAT6 inhibitor offers potential for *antibody-like efficacy* with oral convenience in type 2 diseases

Strong human *genetic evidence* for critical role of STAT6 with associated GWAS and gain of function mutations driving allergic disease<sup>2,3,4,5</sup>

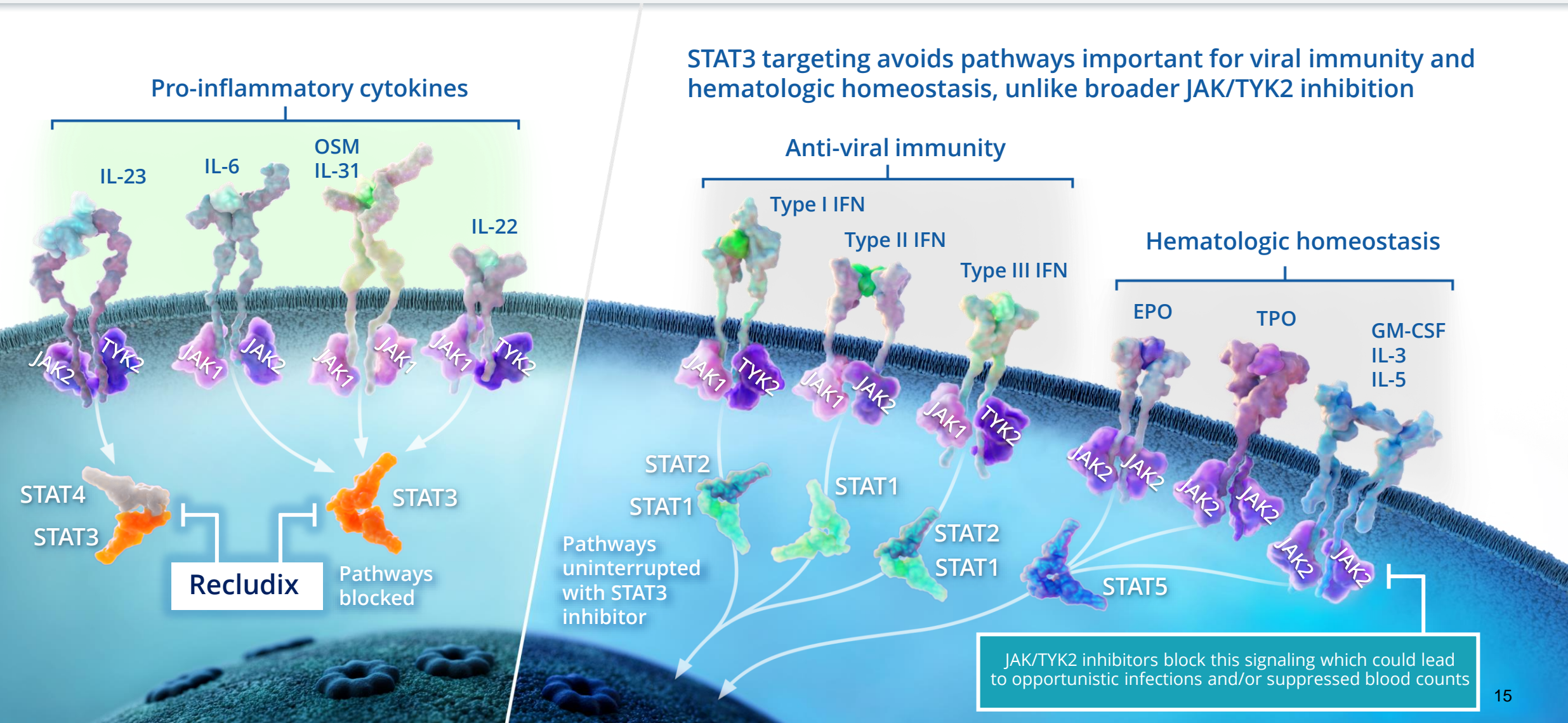
Entered strategic collaboration with Recludix Pharma to advance novel oral STAT6 SH2 domain inhibitors with *IND projected in 2025*

1. Corporate presentation, Recludix Pharma, JPM HealthCare Conference, Jan 2023. 2. Baris et al., JACI 152, 2023. 3. Sharma et al., J Exp Med 220, 2023. 4. Takeuchi et al., JACI 151, 2023. 5. Suratannon et al., JACI 151, 2023.

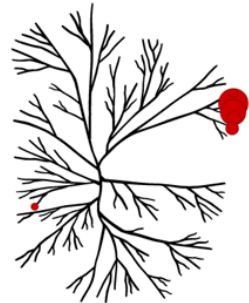
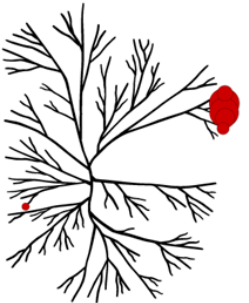
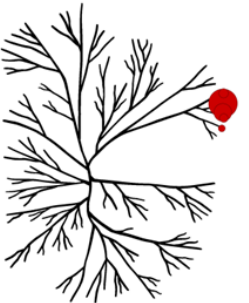
**STAT3**

# STAT3 is a First- and Best-In-Class Opportunity to Inhibit Clinically Validated Inflammatory Disease Pathways

STAT3 dependent cytokines are key inflammatory drivers of psoriasis, inflammatory bowel disease & rheumatoid arthritis



# Recludix Has Identified Multiple Highly Potent, Selective and Orally Bioavailable STAT3 Inhibitors

	REX-4019	REX-5376	REX-7117
<b>Biochemical Potency</b> (SH2scan $K_D$ )	0.28 nM	0.15 nM	0.16 nM
<b>Cellular Potency</b> (pSTAT3 $IC_{50}$ in human PBMCs)	5.1 nM	0.72 nM	1.2 nM
<b>Biochemical STAT Family Selectivity</b>	~15X vs. STAT1 >300X vs. STAT2/4/5/6	~2X vs. STAT1 >150X vs. STAT2/4/5/6	~20X vs. STAT1 >500X vs. STAT2/4/5/6
<b>Cellular Selectivity</b> (PBMCs)	>10X vs. STAT1 >100X vs. STAT2/4/5/6	~2X vs. STAT1 ~20X vs. STAT2 >300X vs. STAT4/5/6	~20X vs. STAT1 >500X vs. STAT2/4/5/6
<b>SH2 Domain Selectivity</b>			



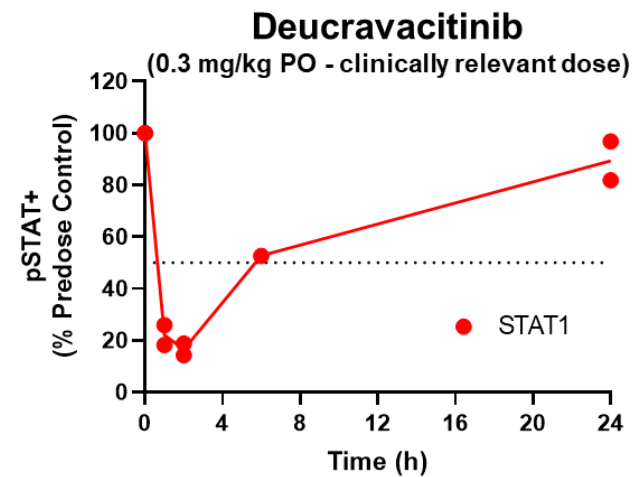
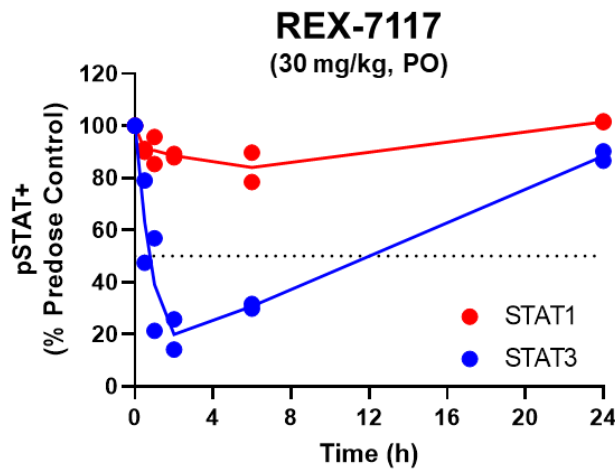
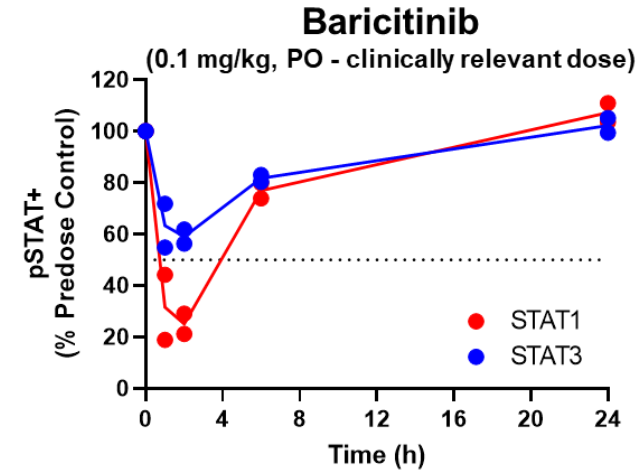
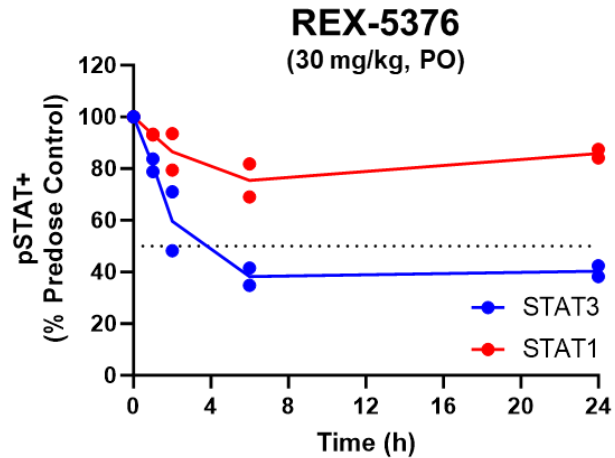
# STAT3 Inhibition Impairs Th17 Cells and Differentiates From JAK/TYK2 Inhibitors in Functional T Cell Assays

		T cell function				Hematologic homeostasis	
		General Adaptive Immune response	Defense against viruses and bacteria	Defense against extracellular pathogens	Defense against parasites and mediation of antibody responses	Erythropoiesis	Thrombopoiesis
		T Cell Activation (CD25)	Th1 Cell Function (IFN $\gamma$ )	Th17 Cell Function (IL-17A)	Th2 Cell Function (IL-5)	EPO-Induced STAT5-Driven Transcription	TPO-Induced STAT5-Driven Transcription
STAT3 Inhibitors	<b>REX-4019</b>	>10,000 nM	>2,000 nM	48 nM	>3,000 nM	>10,000 nM	>10,000 nM
	<b>REX-5376</b>	>10,000 nM	>2,000 nM	11 nM	>3,000 nM	>10,000 nM	>10,000 nM
	<b>REX-7117</b>	>10,000 nM	>2,000 nM	14 nM	>3,000 nM	>10,000 nM	>10,000 nM
IL-6 Antagonist	Tocilizumab	>1,000 nM	>1,000 nM	In progress	>1,000 nM	>1,000 nM	>1,000 nM
IL-23 Antagonist	Risankizumab	>1,000 nM	>1,000 nM	In progress	>1,000 nM	>1,000 nM	>1,000 nM
TYK2 Inhibitor	Deucravacitinib	>3,000 nM	260 nM	34 nM	~3,300 nM	3,200 nM	250 nM
JAK Inhibitors	Tofacitinib	340 nM	74 nM	20 nM	20 nM	340 nM	200 nM
	Upadacitinib	39 nM	36 nM	8.0 nM	4.4 nM	69 nM	20 nM
	Baricitinib	110 nM	210 nM	15 nM	15 nM	57 nM	40 nM

Selectivity relative to Th17 inhibition:    >30X    10-30X    <10X

# Recludix Oral STAT3 Compounds Characterized by Selective and Sustained Target Inhibition

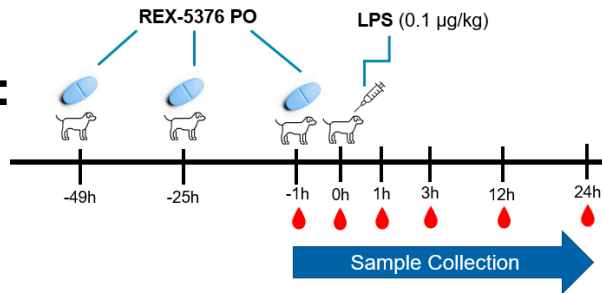
Dog PBMCs evaluated for *ex vivo* pSTAT1/3 activity following single day oral dosing



# Oral STAT3 Inhibition Significantly Reduces an IL-6 Dependent LPS-Induced Inflammation in Dogs

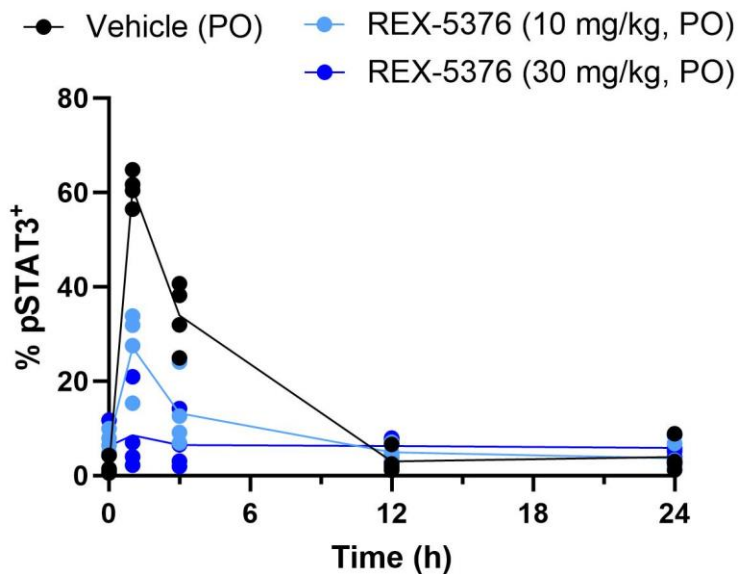
Oral STAT3 inhibition effectively impairs IL-6 mediated inflammatory responses

Study Design:

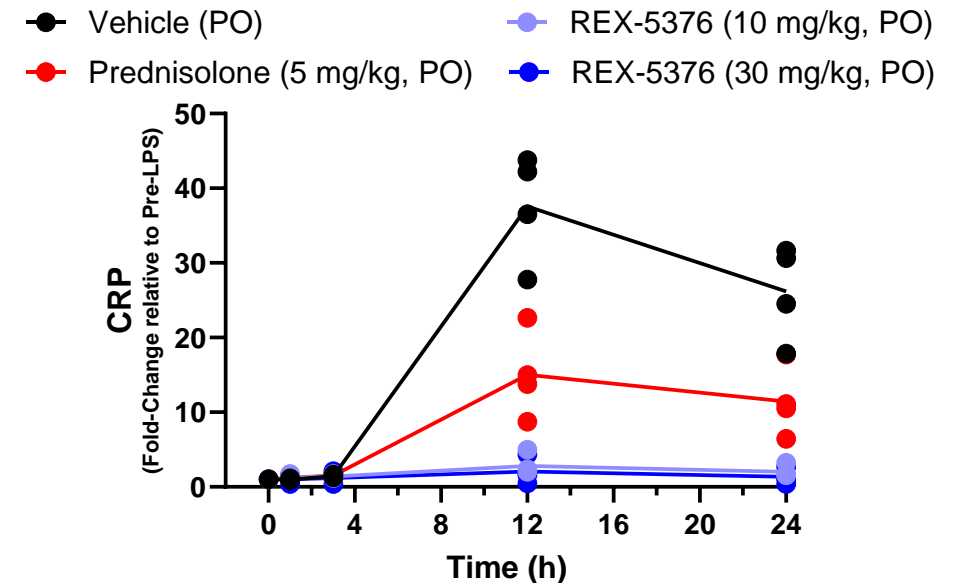


- LPS challenge drives pSTAT3 activation, immune activation, and IL-6 dependent CRP production
- Oral REX-5376 inhibits endogenous pSTAT3 signaling and abrogates CRP induction

## PBMC pSTAT Activity



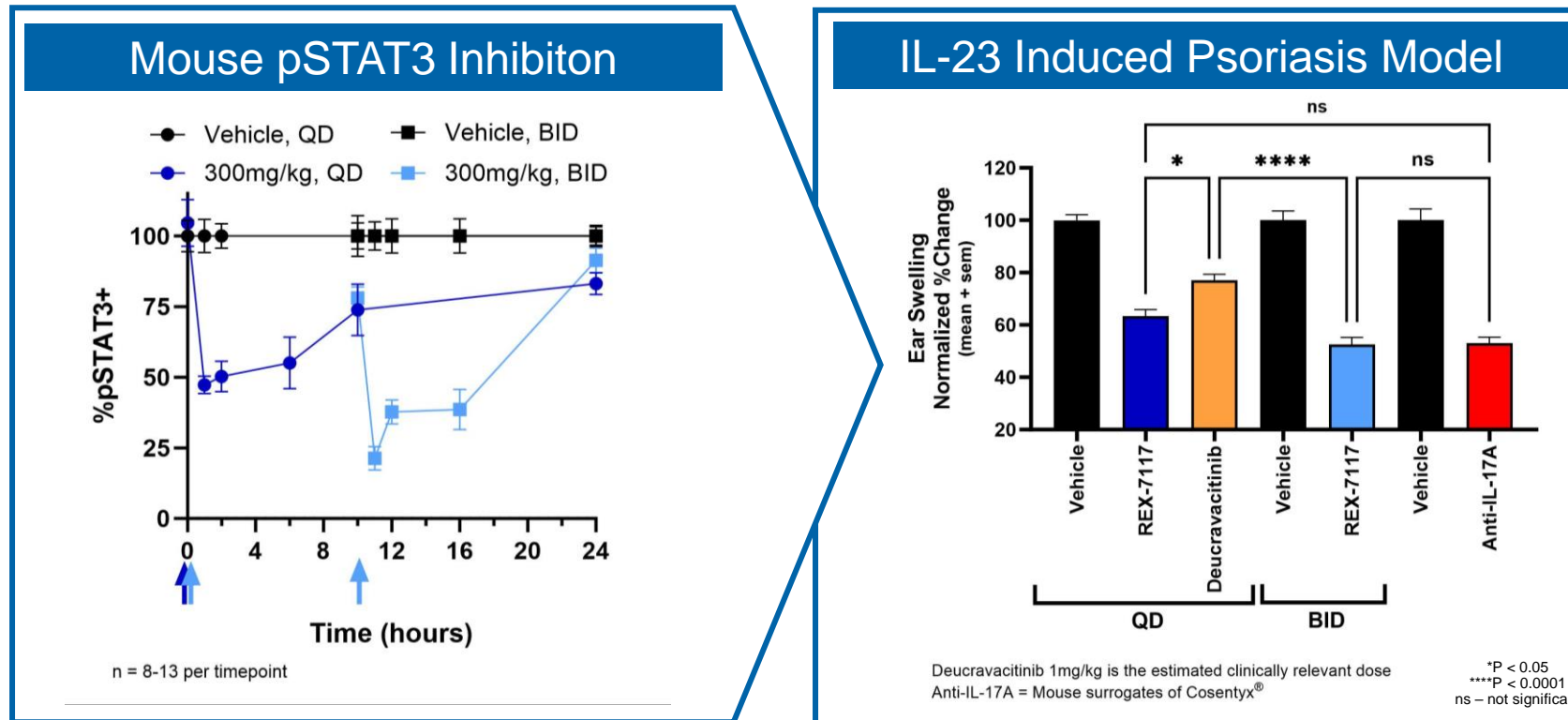
## Serum CRP



# REX-7117 Demonstrates Efficacy After Oral Dosing in a Murine IL-23-Induced Th17 Model of Psoriasis

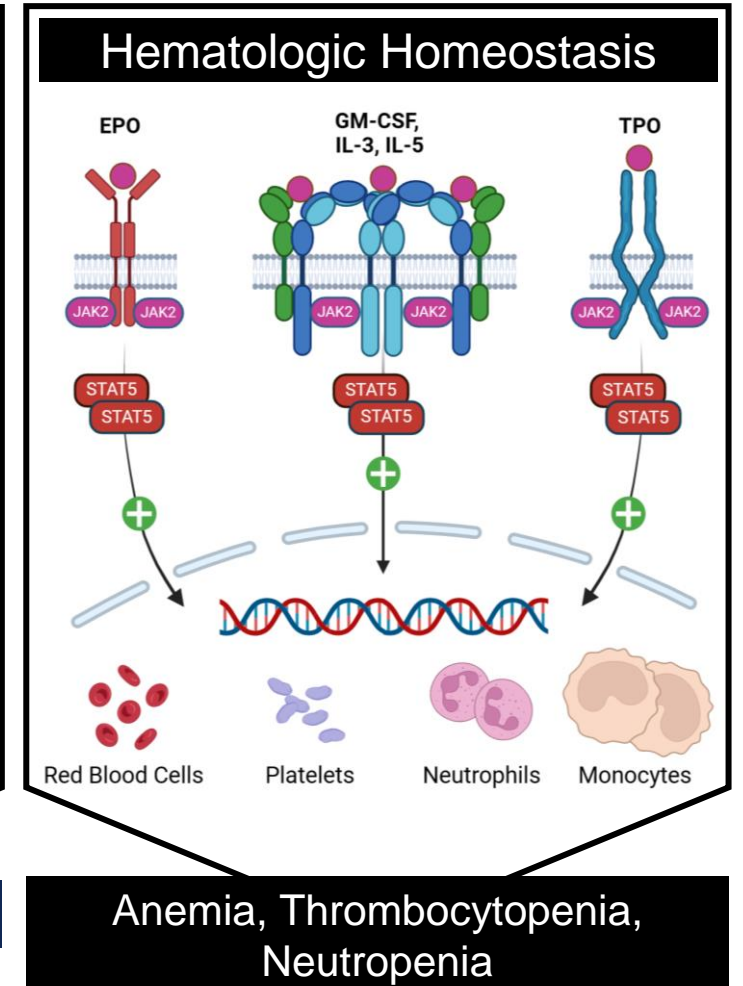
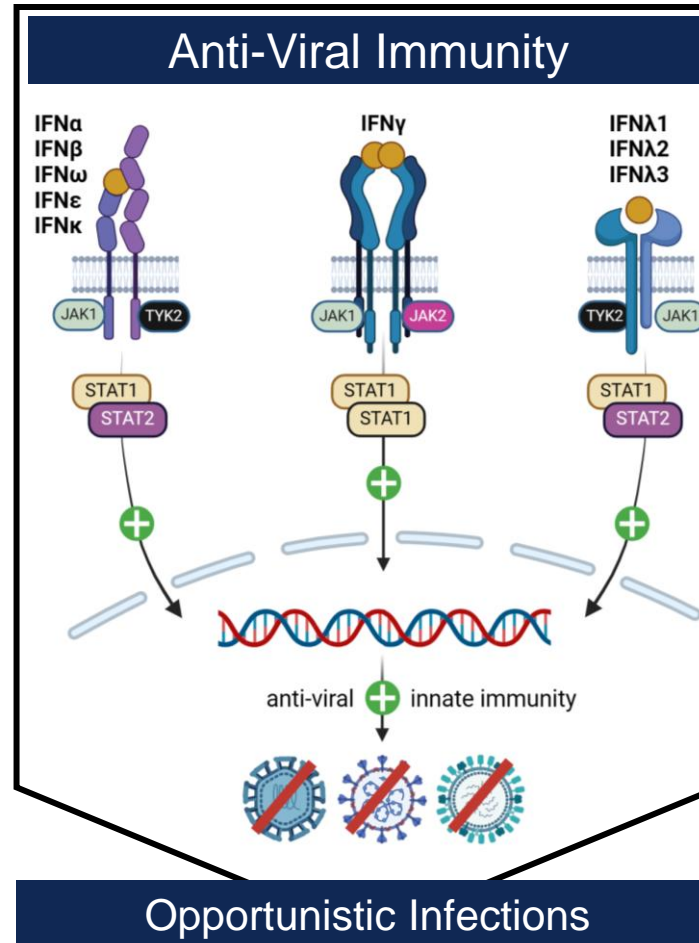
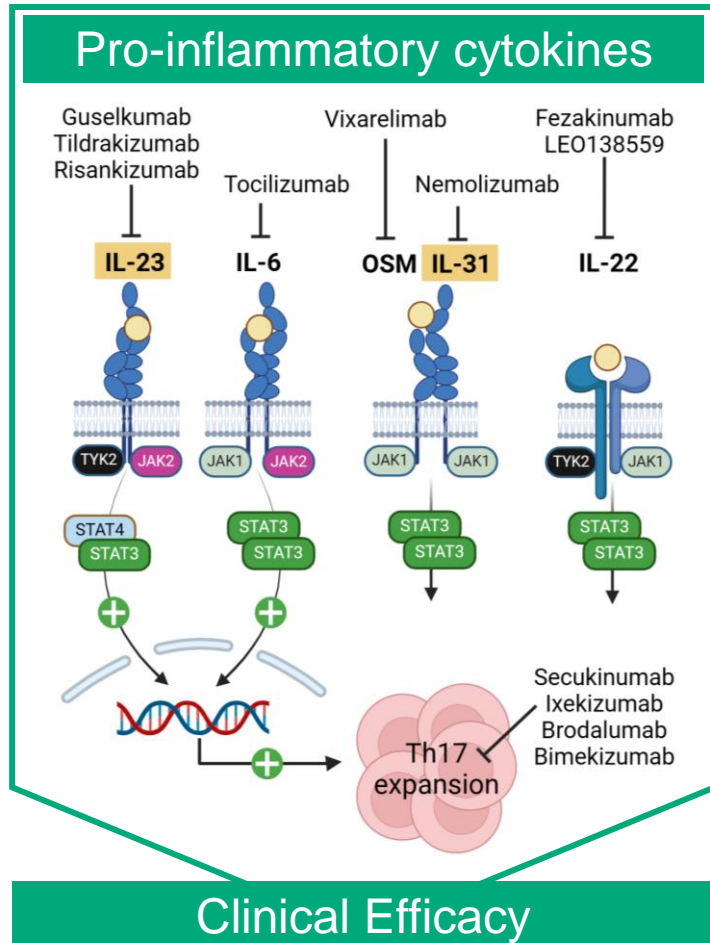
REX-7117 efficacy comparable to anti-IL-17A biologic and improved relative to deucravacitinib

- Preclinical model used in the development of anti-IL-17 and anti-IL-23 biologics therapies
- REX-7117 dose was selected to match PD profile to that observed in dog at 15 mg/kg QD
- Deucravacitinib clinically relevant dose determined from regulatory filings and publications



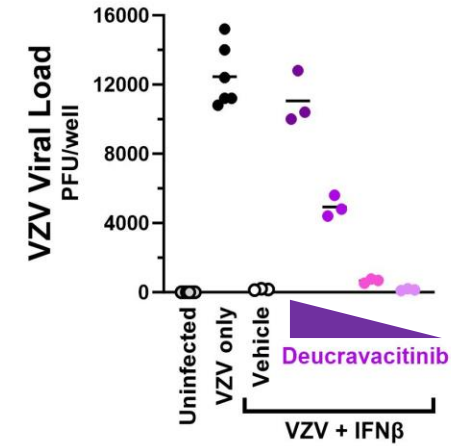
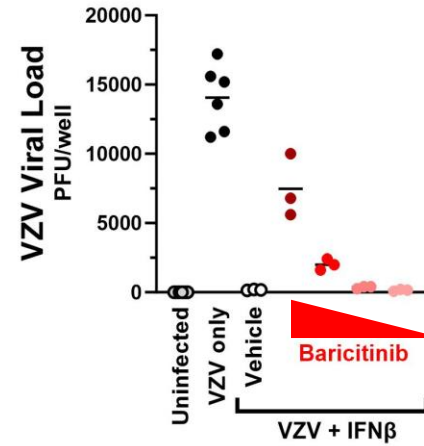
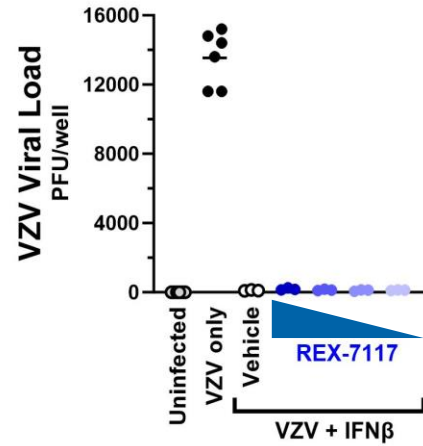
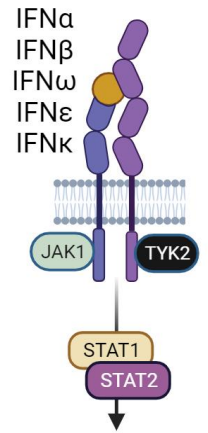
# STAT3 Inhibition Selectively Targets Key Inflammatory Cytokines and Downstream Th17 Cell Pathogenesis

Selective STAT3 inhibitors have potential JAK/TYK2 safety differentiation advantages

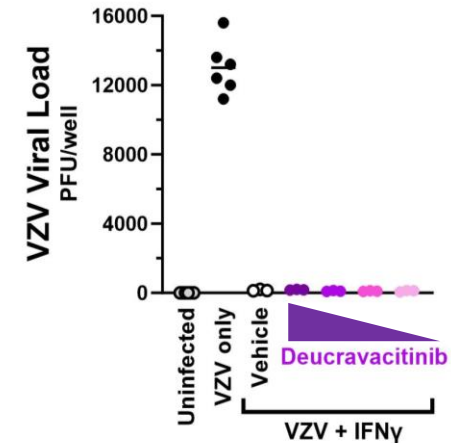
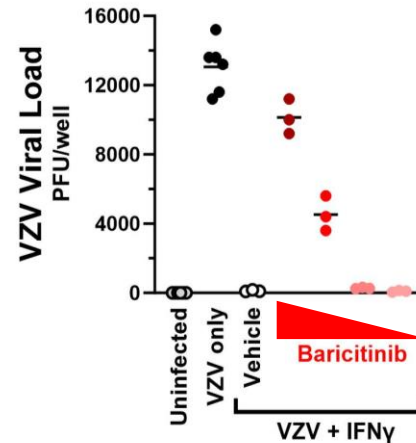
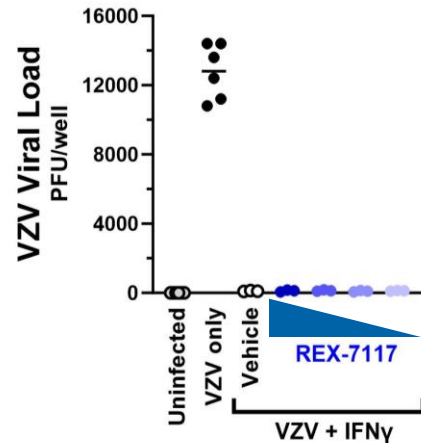
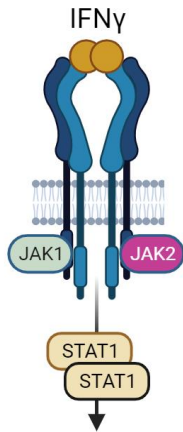


# Selectively STAT3 Inhibitors Do Not Impair Interferon-Mediated Inhibition of Viral Replication Unlike JAK/TYK2 Inhibitors

## Type I IFN $\beta$ : Varicella Zoster Virus (VZV)

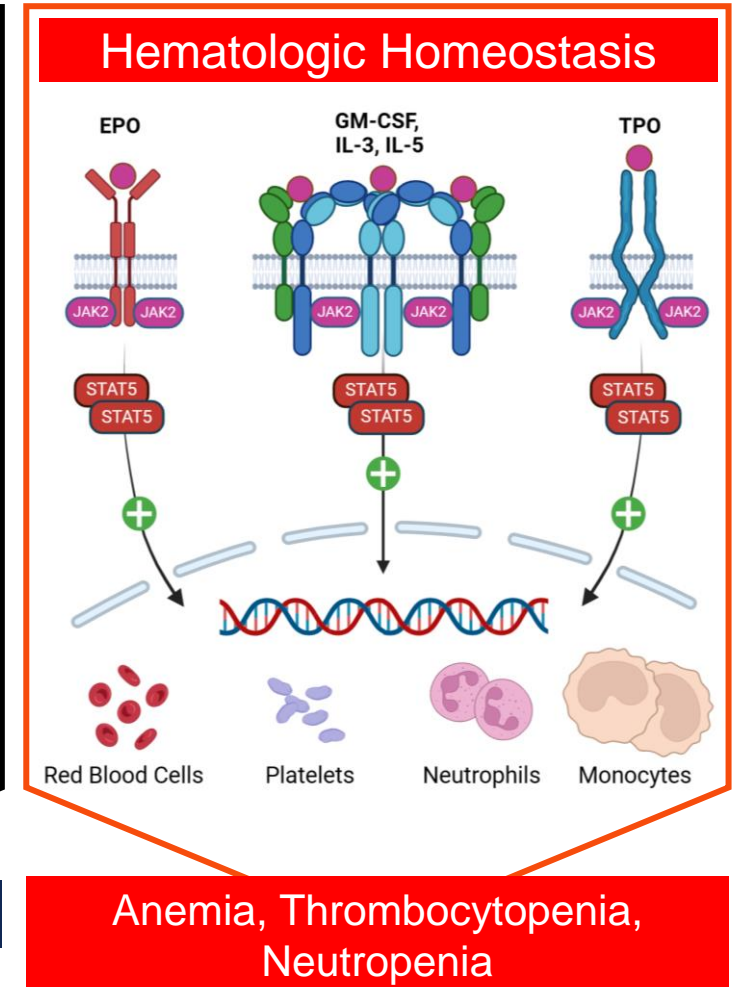
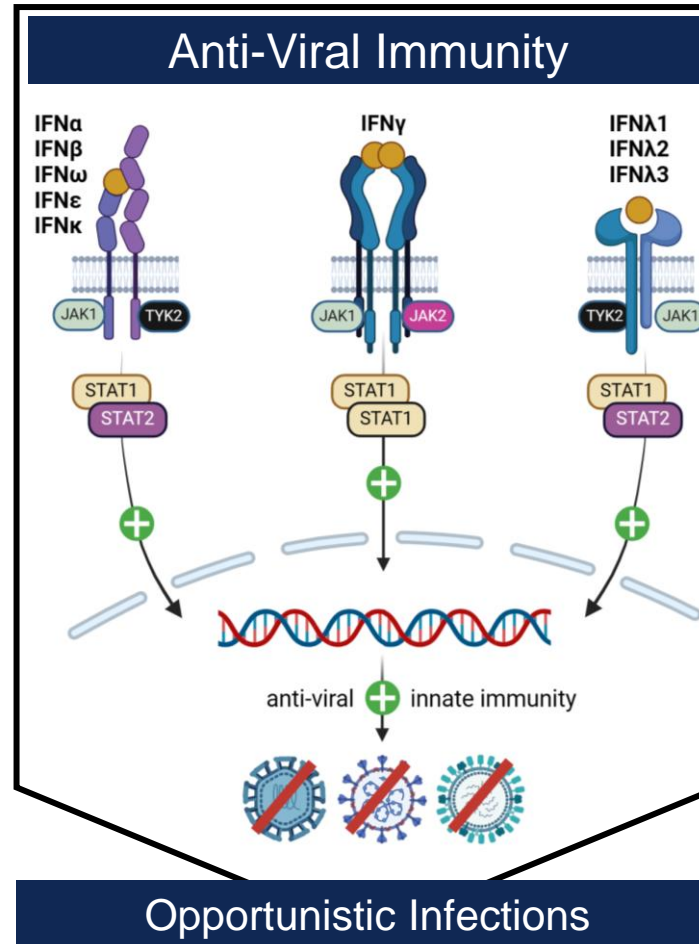
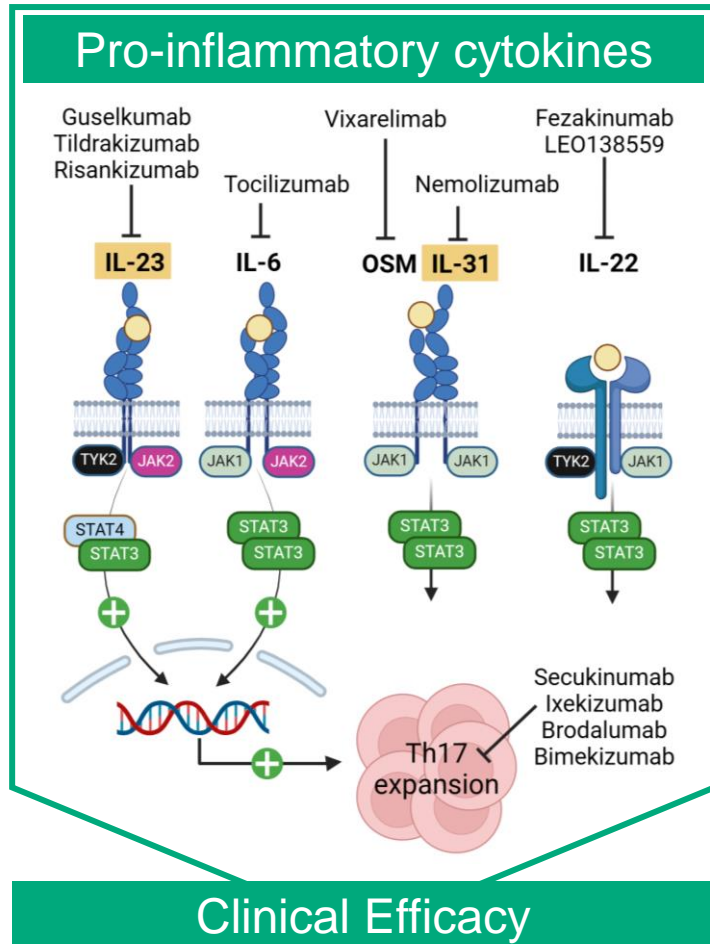


## Type II IFN $\gamma$ : Varicella Zoster Virus (VZV)



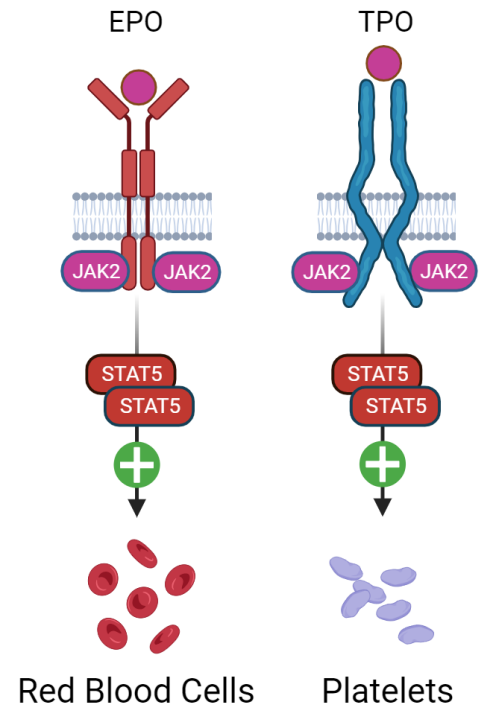
# STAT3 Inhibition Selectively Targets Key Inflammatory Cytokines and Downstream Th17 Cell Pathogenesis

Selective STAT3 inhibitors have potential JAK/TYK2 safety differentiation advantages



JAK inhibitors impair hematopoietic signaling at equivalent concentrations to their anti-inflammatory mechanism of action

## Hematology Homeostasis



Erythropoietin (EPO) or Thrombopoietin (TPO) mediated pSTAT5 signaling in reporter cell lines		Hematopoiesis		
		STAT3-driven Inflammation IL-6-Driven pSTAT3 Activation in PBMCs (IC <sub>50</sub> )	Erythropoiesis EPO-Induced STAT5-Driven Transcription (IC <sub>50</sub> )	Thrombopoiesis TPO-Induced STAT5-Driven Transcription (IC <sub>50</sub> )
STAT3 Inhibitors	REX-5376	6 nM	>10,000 nM	>10,000 nM
	REX-7117	1 nM	>10,000 nM	>10,000 nM
TYK2 Inhibitors	Deucravacitinib	140 nM	3,200 nM	250 nM
	TAK-279	>10,000 nM	>10,000 nM	>10,000 nM
JAK Inhibitors	Tofacitinib	110 nM	340 nM	200 nM
	Upadacitinib	48 nM	69 nM	20 nM
	Baricitinib	28 nM	55 nM	46 nM

Selectivity relative to PBMC pSTAT3 inhibition:    >30X    10-30X    <10X

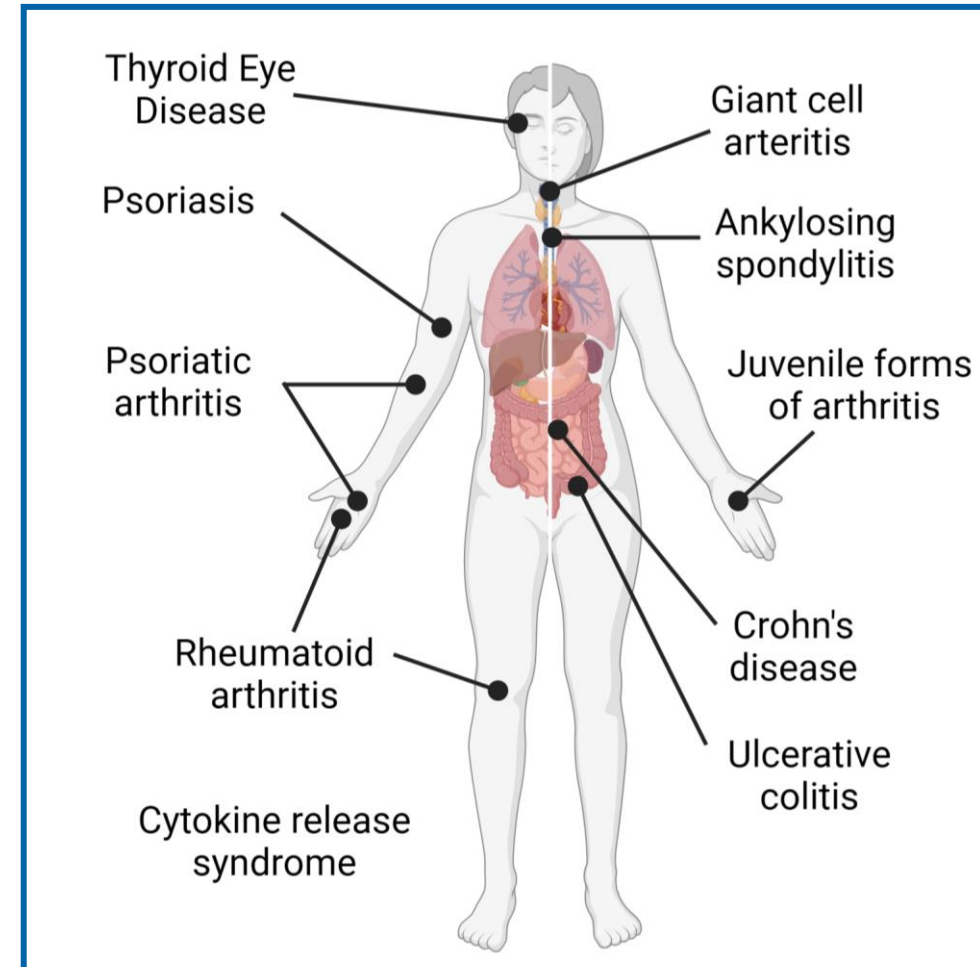


# STAT3 Inhibition Has Potential Clinical Applications Across Multiple I&I Diseases

Leveraging clinically validated mechanisms with selective STAT3 inhibition

A selective, oral STAT3 inhibitor has potential to replace JAK/TYK2 inhibitors and biologics for multiple inflammatory diseases with large market opportunities

- JAK inhibitor global sales >\$4.7B annually, despite Black Box safety warnings.
- STELARA®, an injectable IL-12/23 inhibitor, annual sales >\$10.8B in 2023





**Thank you**

[www.recludixpharma.com](http://www.recludixpharma.com)

[info@recludix.com](mailto:info@recludix.com)

[bd@recludix.com](mailto:bd@recludix.com)

Unlocking New Therapeutic Possibilities

