

H.C. Wainwright 25<sup>th</sup> Annual Global Investment Conference

September 13<sup>th</sup>, 2023

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# Pursuing Paradigm Shifts in Immunology and Oncology



**KEZAR**LIFE SCIENCES



### Zetomipzomib (KZR-616): First-in-Class Immunoproteasome Inhibitor

- Harmonizing the immune system via immunomodulation
- Potential "pipeline in a drug"
- Successfully completed MISSION Phase 2 study in lupus nephritis

### **KZR-261: First Candidate from Our Protein Secretion Platform**

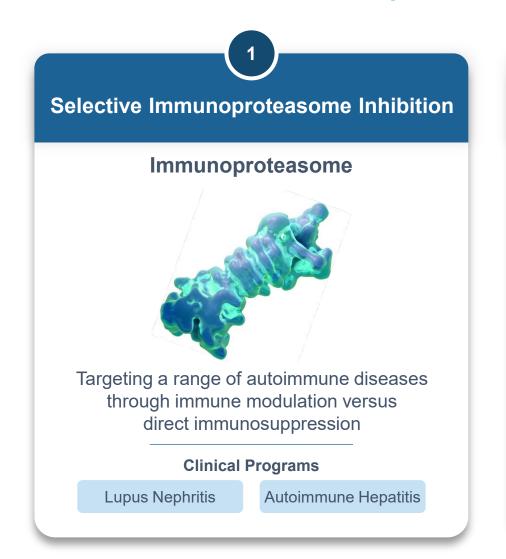
- First-in-class inhibitor of Sec61 translocon
- Impacts tumor proliferation, metastasis and immune invasion
- Currently in a Phase 1 study in solid tumors

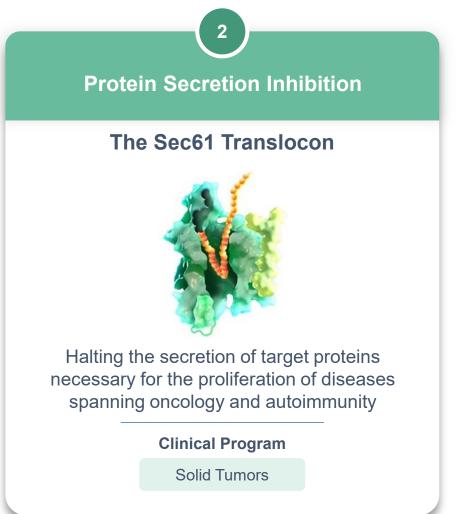
### **Strong Financial Position**

• \$236.6M cash, cash equivalents and marketable securities as of June 30, 2023; 72.5M common shares outstanding

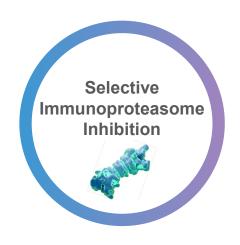
### **Targeting Master Regulators of Cellular Function to Treat a Range of Chronic Conditions**

### **Kezar's Two Unique, Protein-Targeting Approaches**





### Building a First-In-Class Therapeutic Portfolio: "Pipeline in a Drug" Candidates with Multiple Shots on Goal, Supported by Novel Discovery Platform





Lupus Nephritis (LN)

Autoimmune Hepatitis (AIH)

DISCOVERY	PHASE 1	PHASE 2	PHASE 3
PALIZADE			
PORTOLA			



**KZR-261** 

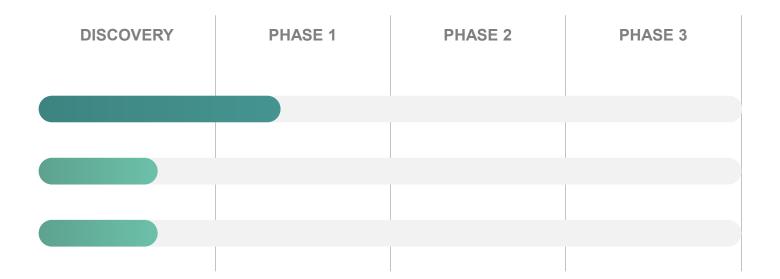
Advanced/Metastatic Solid Tumor

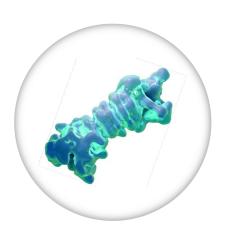
**Oral Anti-PD-1** 

Single Target Oncology

**KZR-TBD** 

Multi Target Oncology





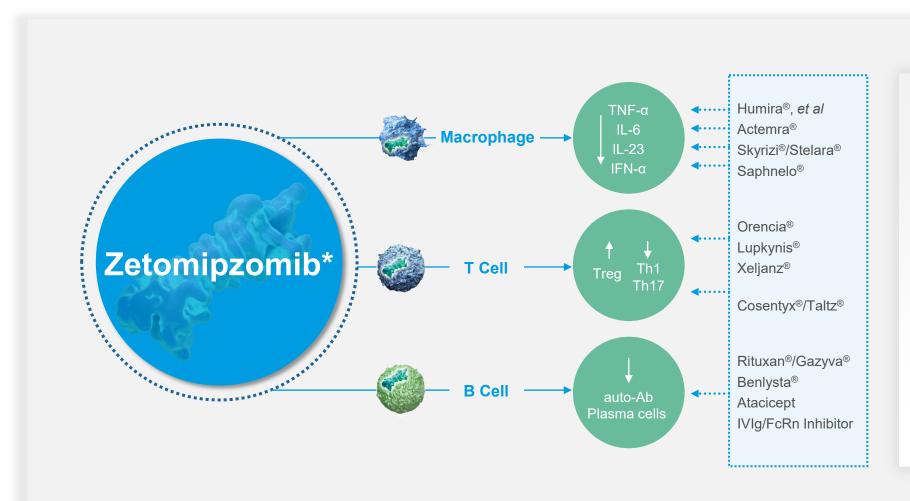
## SELECTIVE IMMUNOPROTEASOME INHIBITION:

### Zetomipzomib

Targeting a Range of Autoimmune Diseases Through Immune Modulation Versus Direct Immunosuppression



### Zetomipzomib's Competitive Advantage: Immunomodulation Across the Entire Immune System

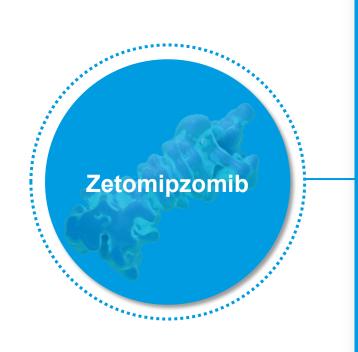


### Zetomipzomib Advantage

- Targeted inhibition of immunoproteasome in immune cells and site of inflammation
- Inhibits multiple drivers of inflammation
- Normal immune response mechanisms remain intact

### Key Attributes of Zetomipzomib, a First-in-Class Inhibitor of the Immunoproteasome

### Zetomipzomib Modulates Innate and Acquired Immune Responses Without Evidence of Immunosuppression to Date



- Selective inhibition of the immunoproteasome down regulates inflammation without immunosuppression
  - Once-weekly SC administration
  - No accumulation observed with repeat dosing
  - Consistent exposure and clearance (T1/2 <5 hours)</li>
- No immediate rebound of signs/symptoms of disease activity observed upon discontinuation
- No clinically significant opportunistic or serious infections observed
- No clinically significant immune cell depletion observed
- Not predicted to result in clinically significant drug-drug interactions (DDI)
- No off-target effects observed to date
- No teratogenicity observed in nonclinical studies
- No serum monitoring required



## ZETOMIPZOMIB: MISSION

Phase 2 Study Evaluating Zetomipzomib in Lupus Nephritis



### MISSION: Zetomipzomib Achieves Clinically Meaningful Overall Renal Response (ORR) in Refractory or Hard-to-Treat LN Patients Without Standard Induction Therapy

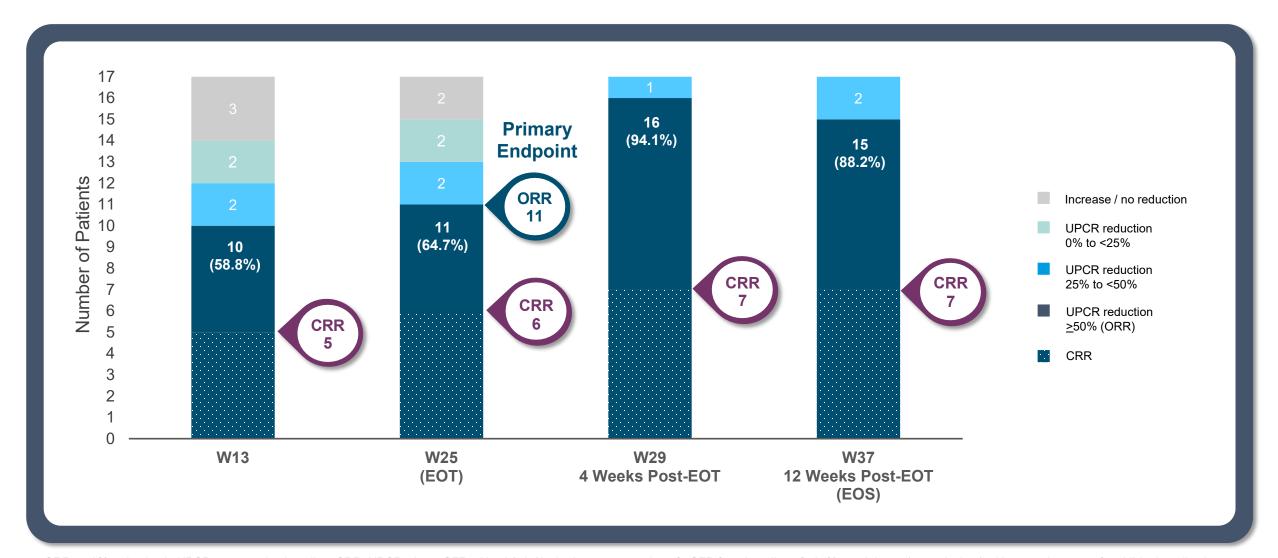




- Clinically meaningful ORR in 65% and CRR in 35% of patients at W25 (EOT)
- Renal response as early as W13 (ORR in 59% and CRR in 29%)
- Sustained renal response with additional ORRs/CRRs observed through W37
- Achievement of UPCR ≤0.5 in 65% of patients at W37 (EOS)
- Reduction of daily steroid dose to ≤10 mg/d in 82% of patients by W25 (EOT)
- Improvements in key SLE clinical disease activity scores and biomarkers
- Stable mean eGFR during the study
- Generally mild to moderate TEAEs (Grade 1/2)
- No evidence of immunosuppression (no serious/opportunistic infections or immune cell depletion)

### MISSION: Zetomipzomib Demonstrated Clinically Meaningful Renal Responses (Evaluable Population, n=17)

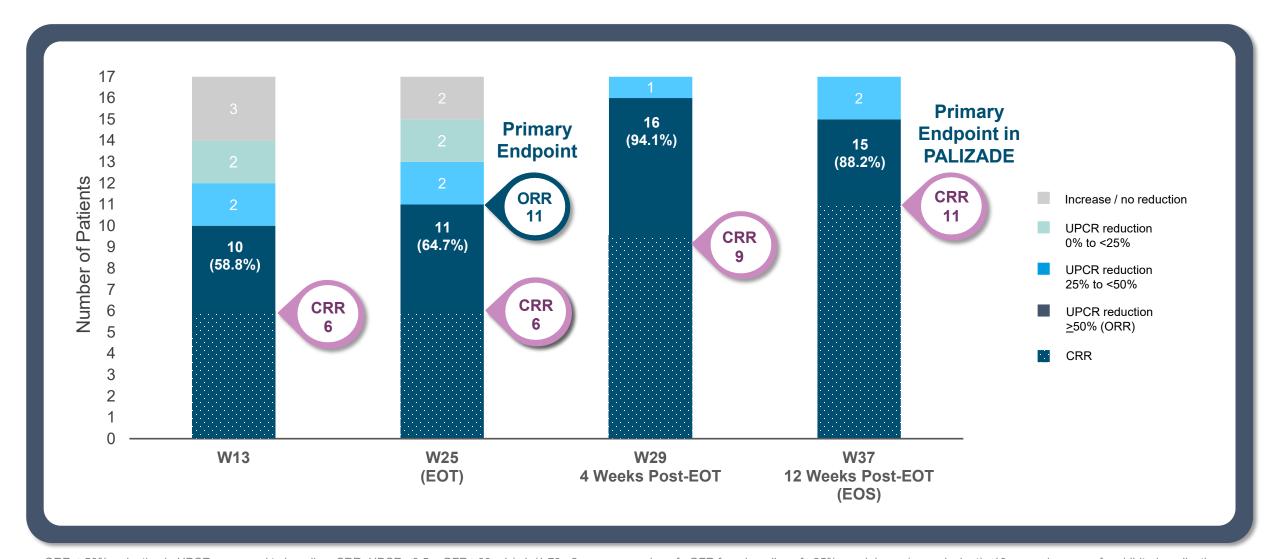




ORR: ≥50% reduction in UPCR compared to baseline; CRR: UPCR ≤0.5, eGFR ≥60 mL/min/1.73m2 or no worsening of eGFR from baseline of ≥25%, prednisone (or equivalent) ≤10 mg and no use of prohibited medication; Evaluable population (n=17) are patients that did not withdraw before Week 25; Patients received 24 weeks of zetomipzomib; End-of-treatment assessments performed at Week 25. Abbreviations: CRR, complete renal response; eGFR, estimated Glomerular Filtration Rate; EOS, end of study, EOT, end of treatment; ORR, overall renal response; UPCR, urine protein to creatinine ratio. KEZAR 11

### MISSION: Using PALIZADE CRR Criteria, Response Rates Further Improve



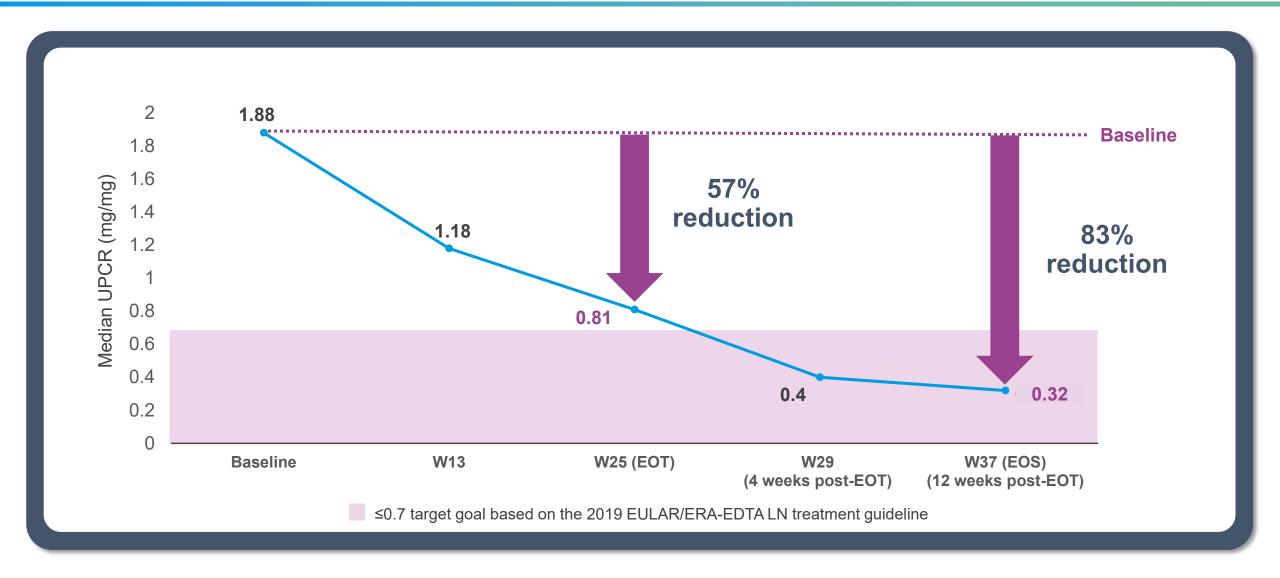


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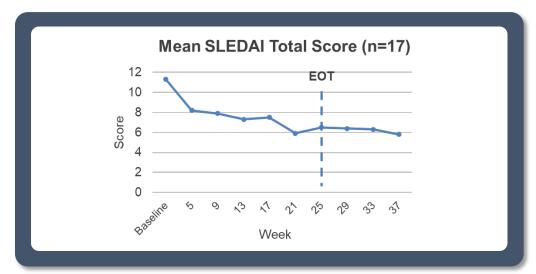
### MISSION: Continued Improvement in Median UPCR Observed With Zetomipzomib Treatment (Evaluable Population, n=17)

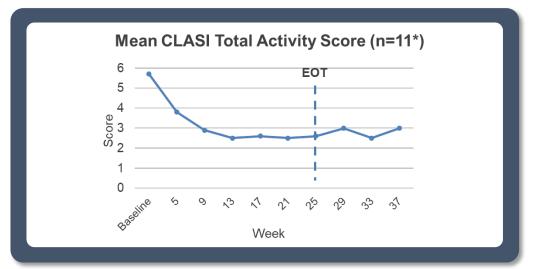


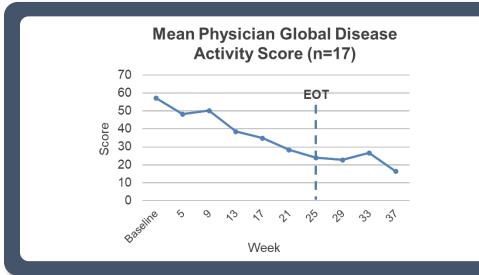


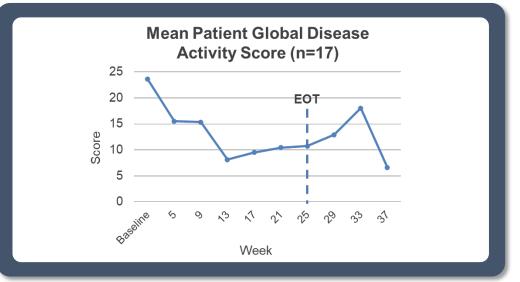
## MISSION: Zetomipzomib Improved Key SLE Clinical Disease Activity Scores (Evaluable Population, n=17)











<sup>\*11</sup> patients had active cutaneous SLE at baseline (CLASI-A >0). There were 5 patients with tender joint count >0 at baseline and 1 patient with swelling joint count >0 at baseline.

Evaluable population (n=17) are patients that did not withdraw before Week 25; Patients received 24 weeks of zetomipzomib; End-of-treatment assessments performed at Week 25

Abbreviations: CLASI, Cutaneous Lupus Erythematosus Severity Index-Activity; EOT, end of treatment; SLE, systemic lupus erythematosus; SLEDAI-2K, Systemic Lupus Erythematosus Disease Activity Index 2000.



### MISSION: Zetomipzomib Demonstrated a Favorable Safety and Tolerability Profile (Safety Population, n=21)



Adverse Events	Zetomipzomib n (%)	
Most Common TEAE: Injection-site Reaction	15 (71.4)	
TEAE Leading to Study Drug Discontinuation <sup>†</sup>	4 (19.0)	
Grade 3 TEAE	6 (28.6)	
Serious TEAE‡	2 (9.5)	
Grade ≥3 Infectious TEAE	0 (0)	
Opportunistic Infections	0 (0)	
Death	0 (0)	

No Grade 4 TEAE was reported. †3 related TEAEs (injection site infiltration, asthenia, reticulocyte increase) and 1 unrelated serious TEAE (worsening pulmonary arterial hypertension [PAH] with acute kidney injury [AKI] and urinary tract infection [UTI]) led to study drug discontinuation. Patient subsequently had SAEs of AKI and UTI (unrelated) and has recovered. ‡1 related serious TEAE of acute protracted migraine was reported. Study drug was temporarily interrupted, and patient has recovered and completed the study. Abbreviation: TEAE, treatment emergent adverse event.



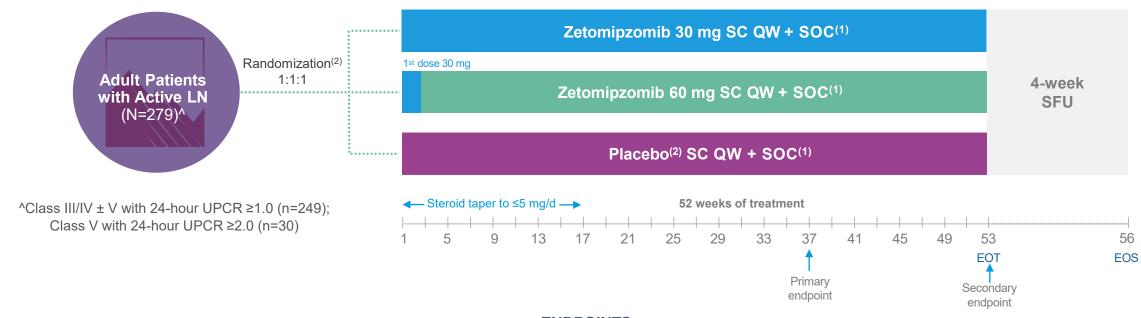
## ZETOMIPZOMIB: PALIZADE

Phase 2b Study Evaluating Zetomipzomib in Lupus Nephritis



## PALIZADE: Phase 2b Placebo-Controlled Trial Evaluating the Efficacy and Safety of Zetomipzomib in Active Lupus Nephritis





### **ENDPOINTS**

### **Primary Efficacy Endpoint**

 Proportion of patients achieving complete renal response (CRR(3)) at Week 37

### **Key Secondary Endpoints**

- Proportion of patients achieving partial renal response (PRR(4)) at Week 37
- CRR at Weeks 25 and 53
- PRR at Weeks 25 and 53

#### **Primary Safety Endpoint**

Severity of AEs

#### Other Endpoints

 SLE Disease Activity Measures (e.g. SLEDAI, 28-Joint Count, SLE Flare Index, PGA)

#### NCT05781750

- 1. MMF or equivalent (target dose 2 gm/d), oral corticosteroids (0.3-0.5 mg/kg/d, maximum 40 mg/d) and IV methylprednisolone (500 mg-1 gm, up to 3 gm, with opt-out for AE or lack of response).
- 2. Volume matched placebos with patients randomized 2:1 (zetomipzomib 30 mg: placebo) 2:1 (zetomipzomib 60 mg: placebo).
- 3. CRR: UPCR ≤0.5 and eGFR ≥60 mL/min/1.73 m<sup>2</sup> or no confirmed decrease of >20% from Baseline eGFR.
- 4. PRR: ≥50% reduction of UPCR from Baseline, and to <1.0 if the Baseline UPCR was <3.0 or to <3.0 if the Baseline value was ≥3.0.

Responder requirement: Should not have received >10 mg prednisone (or equivalent) for ≥3 consecutive days or for ≥7 days in total during the 8 weeks prior to a CRR assessment and no use of rescue or prohibited medication.







## ZETOMIPZOMIB: PORTOLA

Phase 2a Placebo-Controlled Study Evaluating Zetomipzomib in AIH



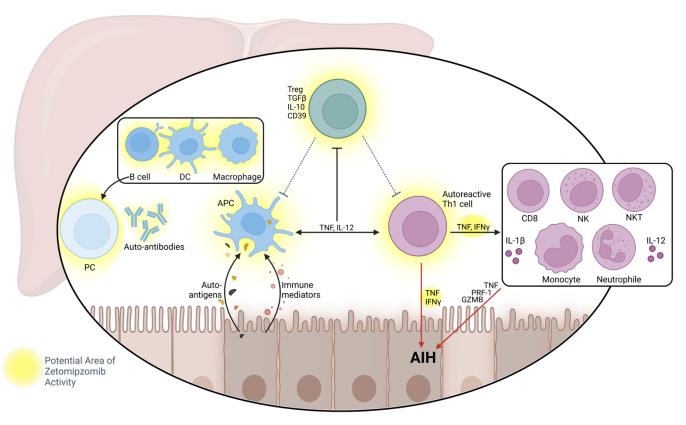
## Newest Clinical Program for Zetomipzomib: Autoimmune Hepatitis (AIH) Significant Need For Treatments that Reduce Use of Chronic Immunosuppression

## AIH: Complex Autoimmune Liver Disease with Increasing Prevalence

### **Significant Unmet Need Remains:**

- Chronic, immunosuppressive steroids are the mainstay treatment<sup>1</sup>
- 35% of patients on SOC do not go into remission<sup>2</sup>
- Significant need for treatments that reduce the use of corticosteroids

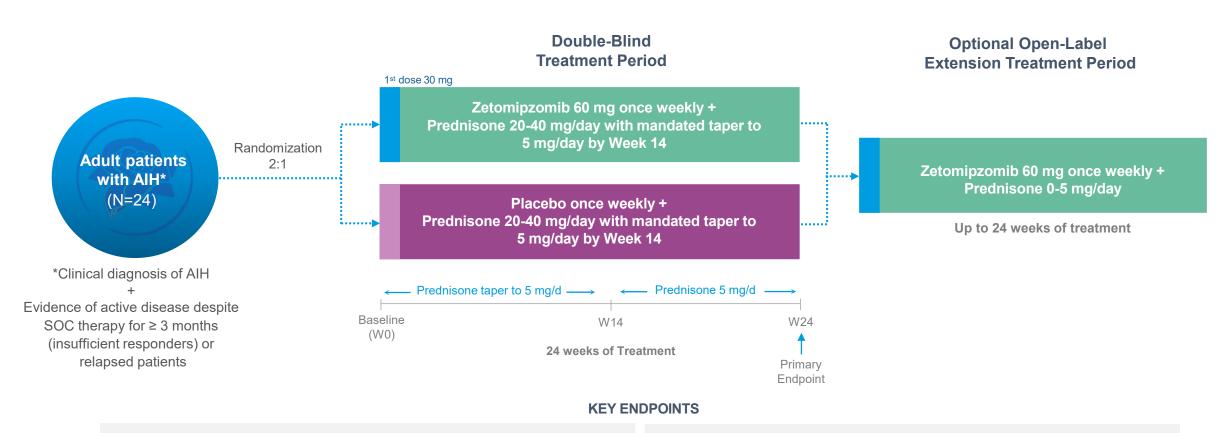
### Zetomipzomib Targets Multiple Immune Effector Cells Involved in AIH



Adapted from Herkel et al., Journal of Hepatology. 2020,73(2):446-448.



## PORTOLA: Phase 2a Placebo-Controlled Trial Evaluating the Safety and Efficacy of Zetomipzomib in Autoimmune Hepatitis

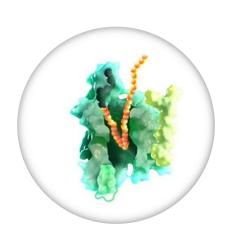


### **Primary Efficacy**

 Proportion of patients who achieve complete remission (ALT/AST normalization) with successful corticosteroid taper by Week 24

#### **Primary Safety**

Proportion of patients who experience adverse events and severe adverse events



## PROTEIN SECRETION INHIBITION:

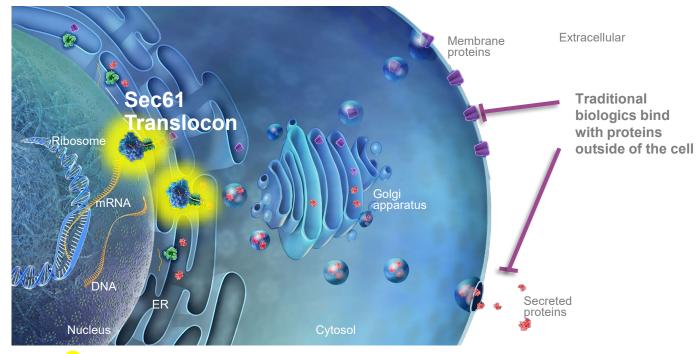
KZR-261

KZR-261: A First-in-Class Anti-Cancer Agent Targeting the Sec61 Translocon

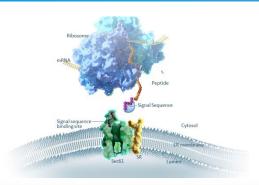


## Protein Signals that Promote Tumor Proliferation, Metastasis, and Immune System Evasion Take Their First Steps Out of a Cell Via the Sec61 Translocation Channel (Translocon)

- The Sec61 Translocon is a highly conserved process, functional in all cells
- Nearly all secreted and transmembrane proteins (5,000 7,000 proteins) utilize Sec61 to enter the ER
- Tumor cells rely on secreted and transmembrane proteins more than healthy cells. Thus, slowing traffic through the Sec61 Translocon will impact tumor cells to a greater degree.
- Currently available therapeutics target proteins that traffic through the Sec 61 translocon once they have been secreted or expressed. Our MOA inhibits expression of these proteins before they leave the cell.



## **Kezar's Novel Platform for Drug Discovery Targets the Sec61 Translocon and the Protein Secretion Pathway**



- Unique drug discovery engine with applications in multiple diseases
- Opportunity for orally bioavailable inhibitors of 1 or more high value targets with a single compound

### **Multi-Target**

### **Target Selective**



- Inhibition of <u>multiple</u> secreted/membrane proteins
- Combination therapy in a single molecule
- Multiple potential oncology indications (tumor agnostic)

KZR-261: 1st clinical candidate

### **Subset Protein Secretion Inhibitors**

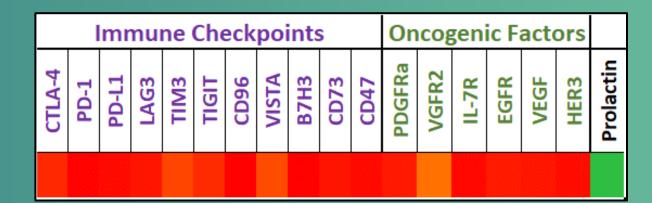
- Inhibition of relevant <u>subset</u> secreted/membrane proteins
- Non-cytotoxic agents
- Indications: oncology, immuno-oncology, immunology

### Single Protein Secretion Inhibitors

- Inhibition of a <u>single</u> secreted/membrane protein
- Preclinical oral PD1 inhibitor: KZR-540
  - Data presented at SITC 2022
- Non-cytotoxic agents
- Indications: Many...

### **KZR-261: Combination Therapy in a Single Small Molecule**

*In vitro* Protein Secretion Assays





### **Direct Effects on Tumor Cells**

- Tumor cell death via proteotoxic stress
- Reduced growth factor & oncogenic RTK expression

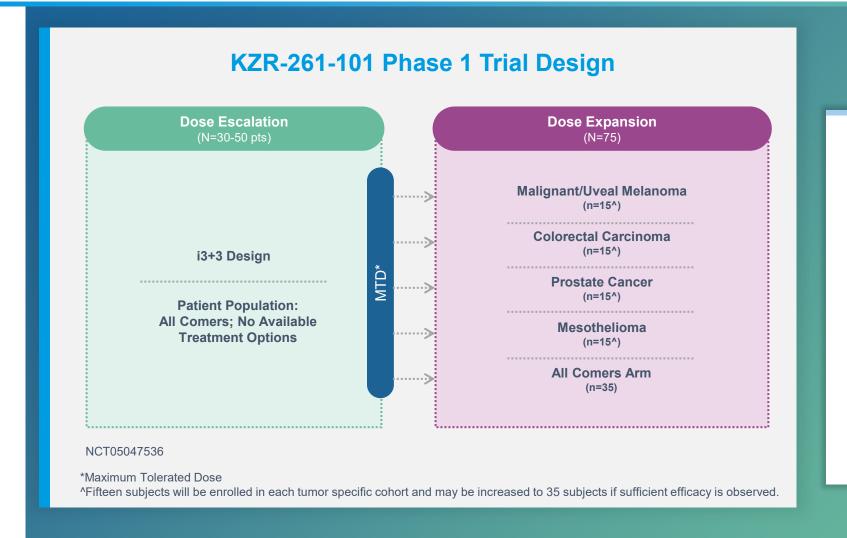


### **Tumor Microenvironment Modulation**

- Reduced angiogenic factor expression (e.g., VEGF)
- Reduced immune checkpoint expression

**Phase 1 Trial Ongoing** 

### **KZR-261: First-in-Human Study Ongoing**





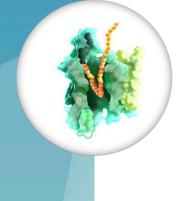
### **Key Outcome Measures**

- Safety, tolerability & PK
- Recommended Phase 2 dose (RP2D)
- Anti-tumor efficacy
- Biomarker validation

#### Goals for KZR-261-101

- · Establish single agent activity
- Maximize opportunities for success for KZR-261
- Identify/confirm potential predictive biomarkers

# Pursuing Paradigm Shifts in Immunology and Oncology



## **SECIENCES**



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## % KEZAR LIFE SCIENCES

### **CONTACT US**

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