



Leader in Targeted Protein Modulation

# Targeted Protein Degradation of BTK for Hematological Malignancies and Autoimmune Disease: Preclinical and Initial Phase 1a PK/PD Data for NX-5948

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# Nurix drugs engage ligases for the treatment of cancer

Targeted Protein Modulation:  $TPM = TPD + TPE$

A Powerful  
Cellular System



Targeted Protein  
Elevation  
(TPE)

Harness ligases  
to decrease  
specific protein levels

Inhibit ligases  
to increase  
specific protein levels

Targeted Protein  
Degradation  
(TPD)

Ubiquitin is ligated to  
target proteins to tag  
them for degradation by  
the proteasome

# Nurix Is Advancing Three Wholly Owned Clinical Programs with a Deep Pipeline of Proprietary and Partnered Novel Targets

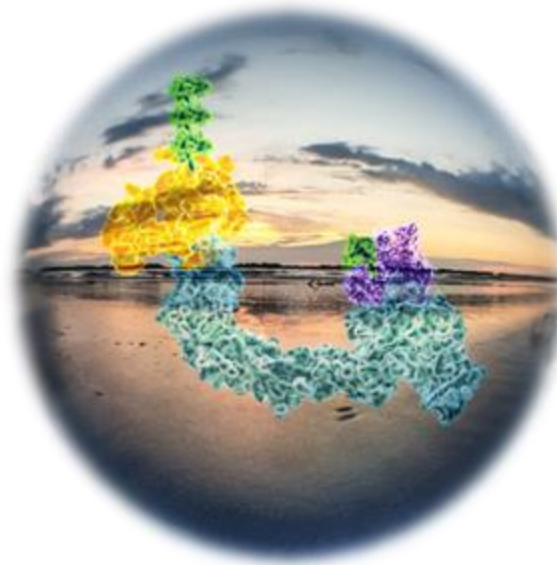
MOA	Drug program	Target/delivery	Therapeutic area	Preclinical	Phase 1a	Phase 1b
TPD	<b>NX-2127</b> Degradar	BTK-IKZF <i>Oral</i>	B-cell malignancies	▶		
	<b>NX-5948</b> Degradar	BTK <i>Oral</i>	B-cell malignancies	▶		
TPE	<b>NX-1607</b> Inhibitor	CBL-B <i>Oral</i>	Immuno-Oncology	▶		
TPM	Wholly owned	5 targets	Multiple	▶		
TPD	Gilead Sciences & Sanofi	10 targets	Multiple	▶		

# A First-In-Class Franchise of BTK Degraders: NX-5948 & NX-2127

## NX-5948

### BTK DEGRADATION

- Clinical evidence of potent BTK degradation in all patients tested
- Active against BTK inhibitor-resistant mutations in vitro
- Crosses blood brain barrier and degrades BTK in microglia and brain-resident lymphoma cells preclinically
- Phase 1a dose escalation trial ongoing in U.K. and IND accepted in the U.S.
- Preclinical activity in models of autoimmune disease



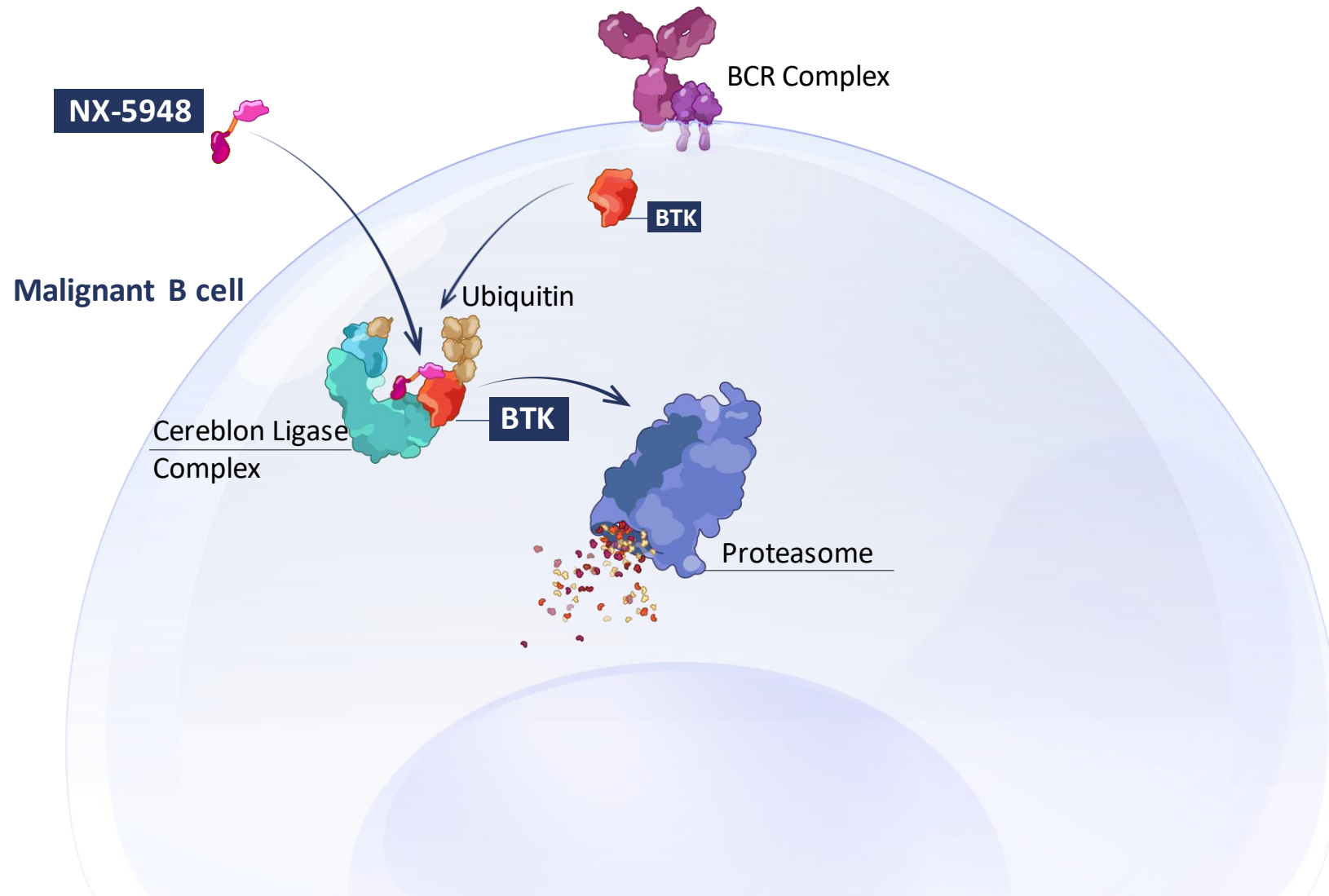
## NX-2127

### BTK DEGRADATION & IMMUNOMODULATION

- Positive clinical activity in CLL patients, including responses in patients with BTK or BCL2 mutations
- Active in the clinic against BTK inhibitor-resistant mutations
- Complete response observed in a patient with DLBCL
- Phase 1b cohort expansion for CLL patients is ongoing
- Dose exploration is ongoing for patients with NHL

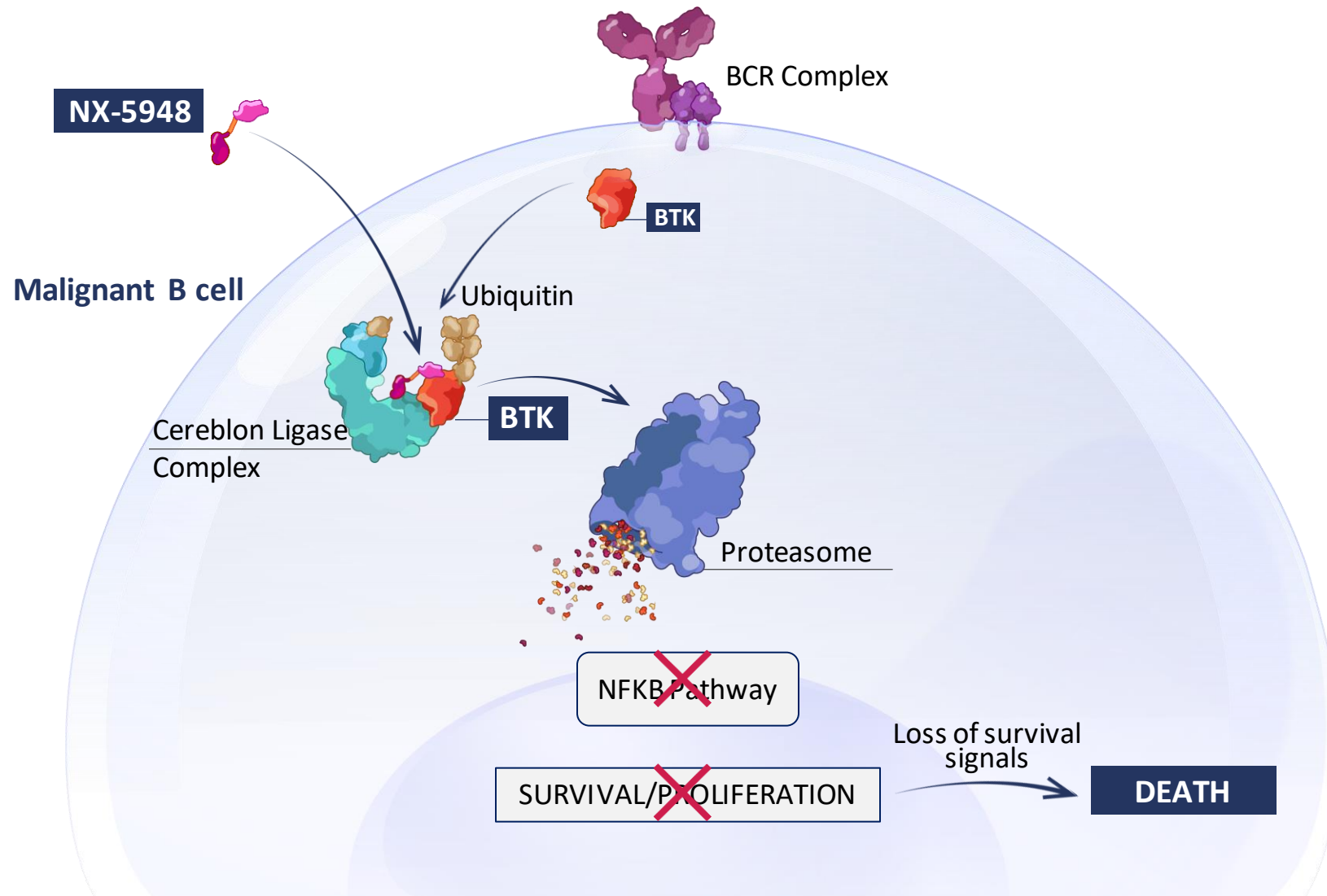
# NX-5948 is a potent and selective degrader of BTK

## Targeted degradation of Bruton's Tyrosine Kinase



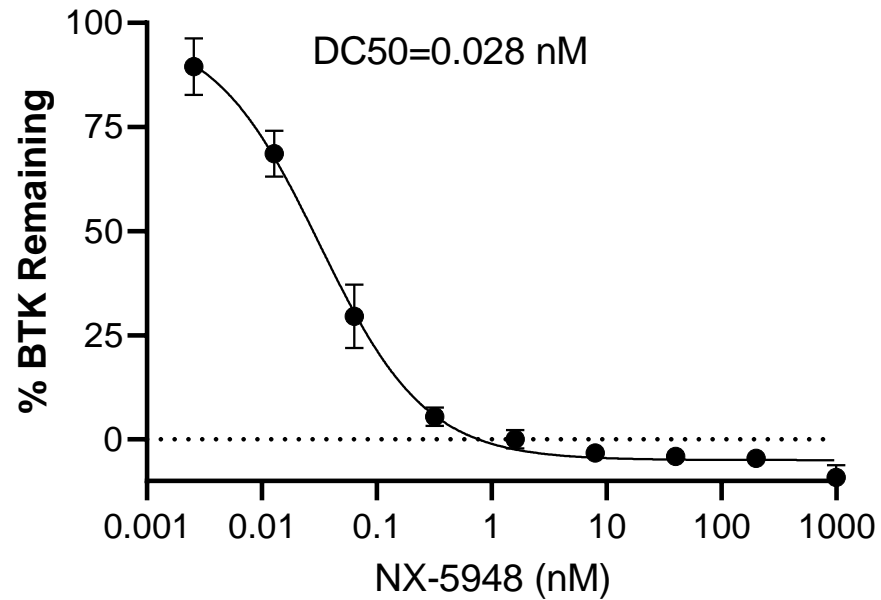
# NX-5948 is a potent and selective degrader of BTK

## Targeted degradation of Bruton's Tyrosine Kinase

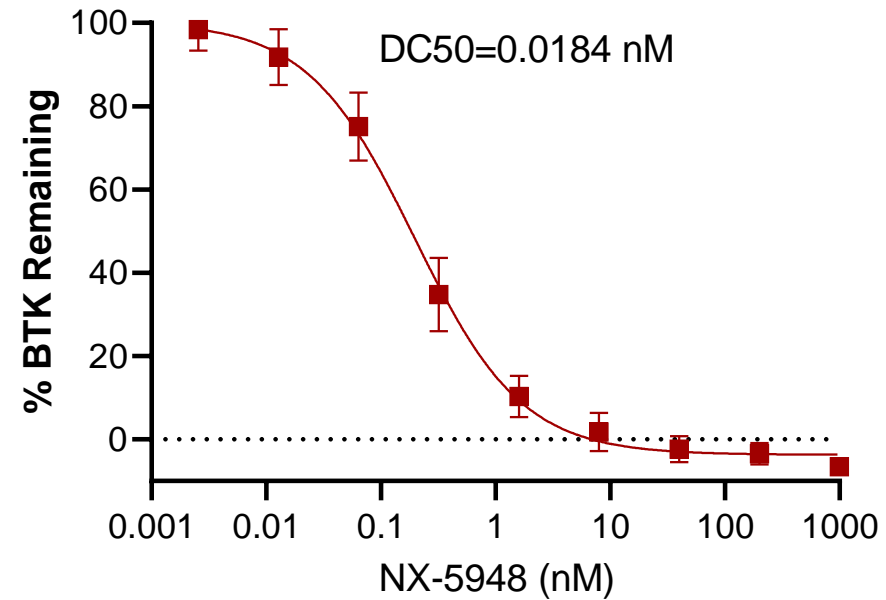


# NX-5948 was Designed for Potent and Rapid Degradation of Wildtype and C481S-Mutated BTK

WT BTK TMD8 Cells



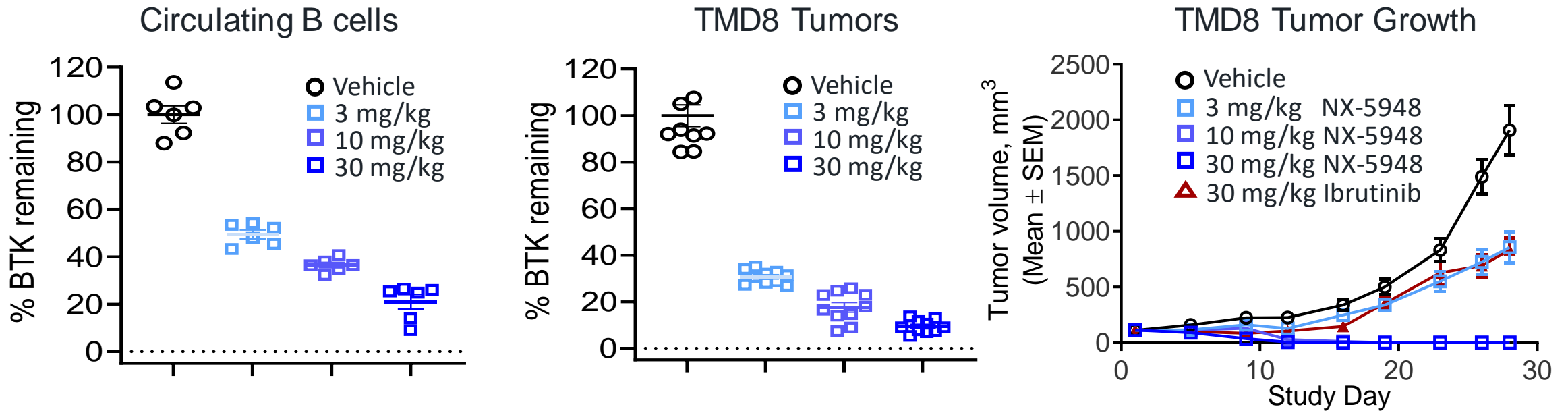
BTK-C481S TMD8 Cells



TMD8 cells harboring WT BTK or a knock-in BTK mutation (C481S) were incubated with NX-5948 for 24 hours, and BTK degradation was assessed by flow cytometry.

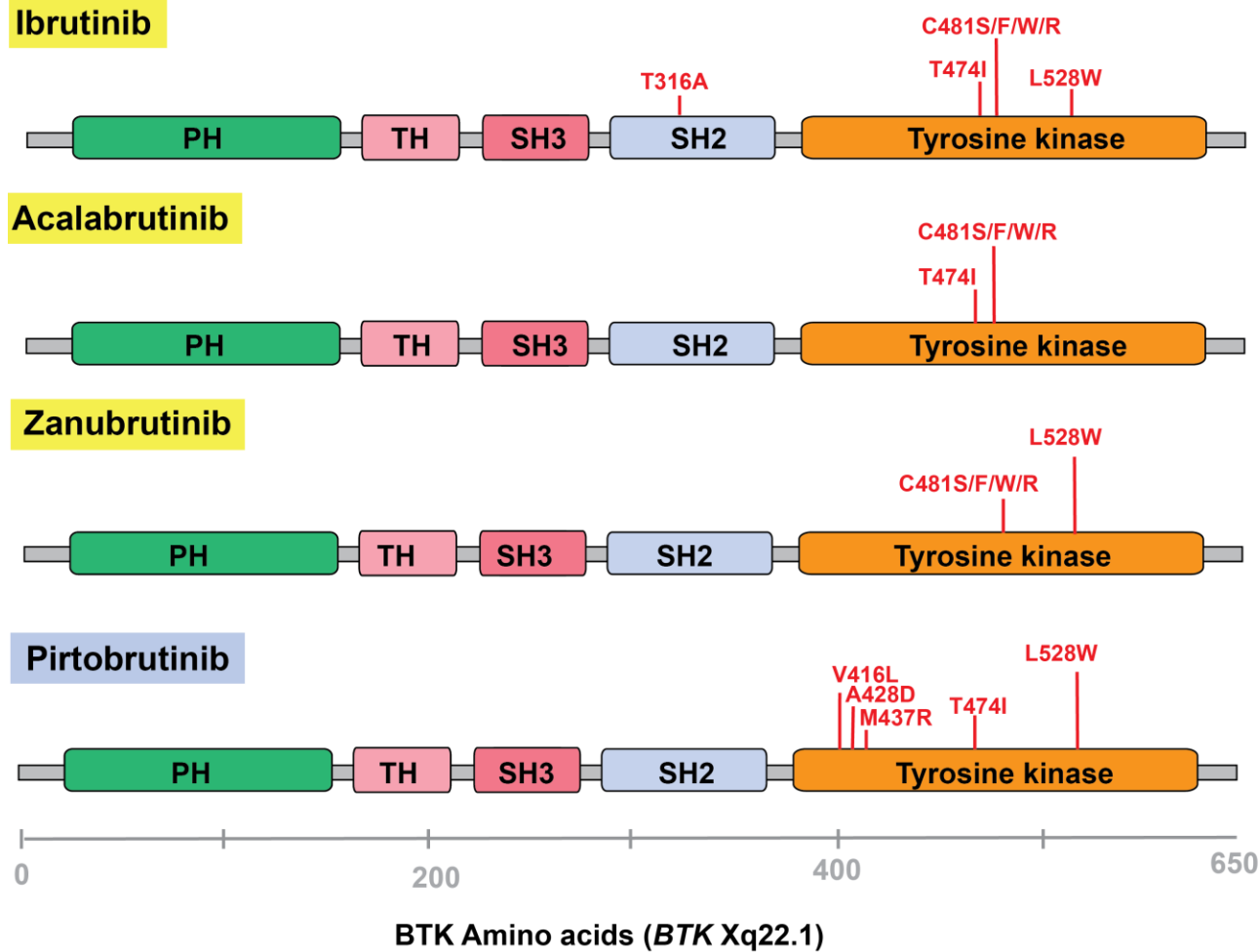


# Degradation of BTK by NX-5948 Correlates with Significant Tumor Growth Inhibition

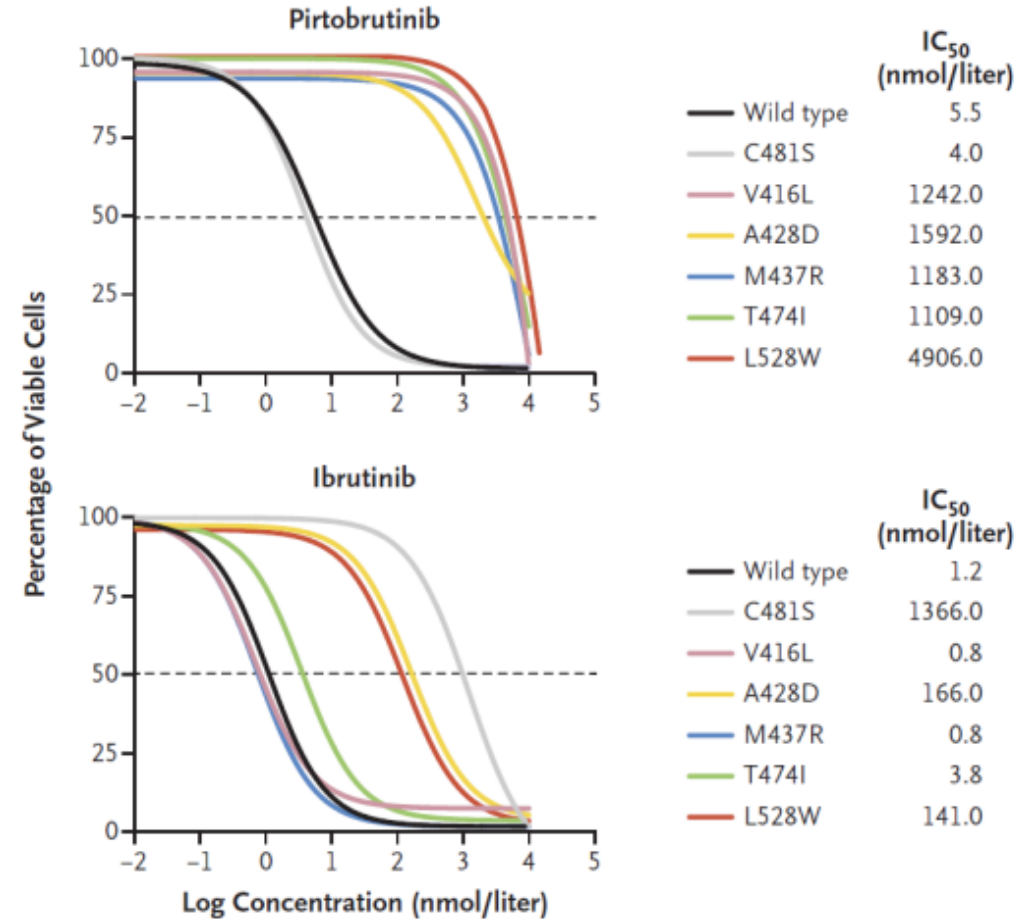


Treatment	Oral gavage dose (mg/kg)	% BTK degradation in circulating B cells	% BTK degradation in TMD8 tumor tissue	% TGI vs Vehicle (Day 26)	P value vs Vehicle
Vehicle	0	0.0±3.7	0.0±4.7	N/A	N/A
NX-5948	3	50.5±1.9	69.2±0.9	54%	0.0025
	10	63.5±1.1	82.4±2.1	100%	<0.0001
	30	79.0±3.1	90.5±0.5	100%	<0.0001
Ibrutinib	30	N/A	N/A	57%	0.0015

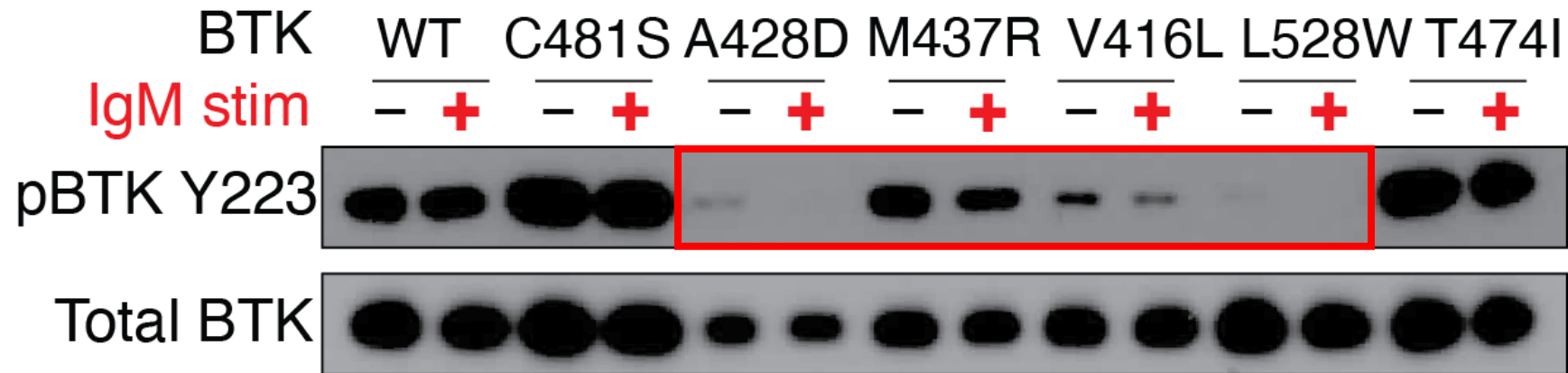
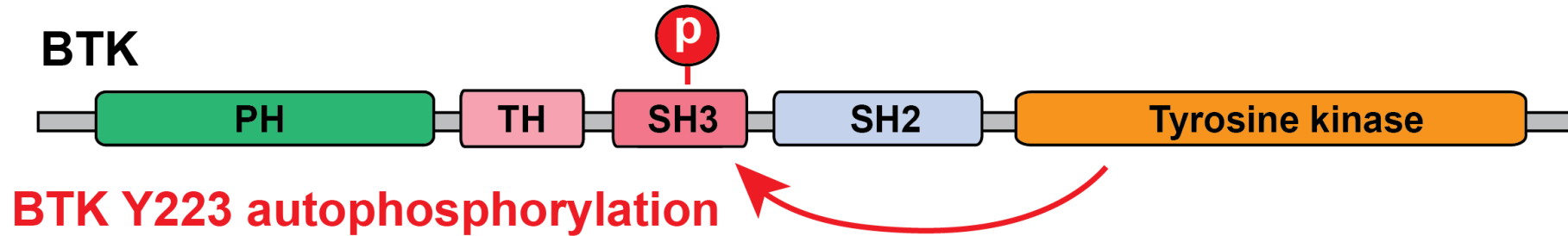
# Increasing Use of BTK Inhibitors in the Clinic have Revealed a Growing Spectrum of Treatment-Emergent Resistance Mutations



Cell-Viability Assays



# Drug Induced Mutations in BTK Render this Protein Target "Undruggable"

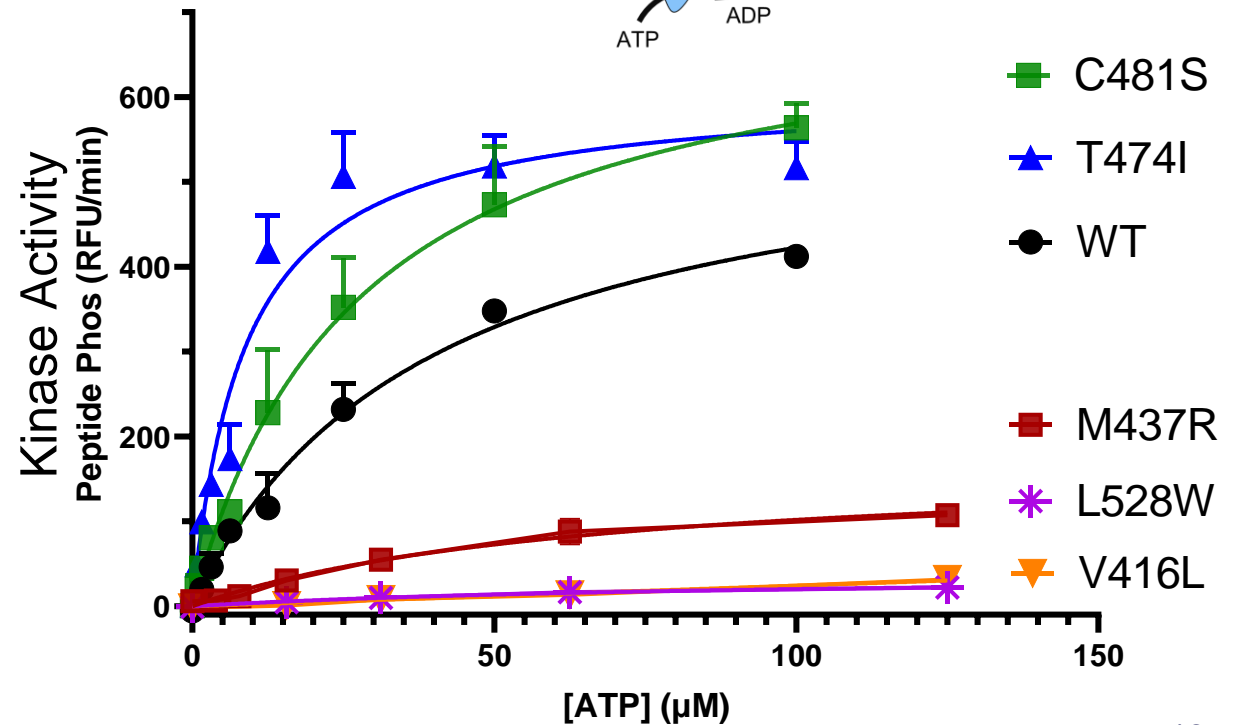
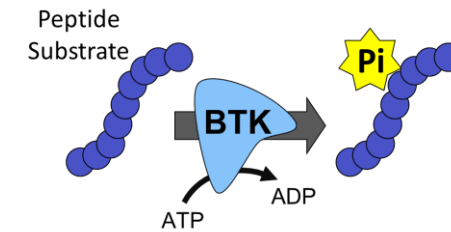
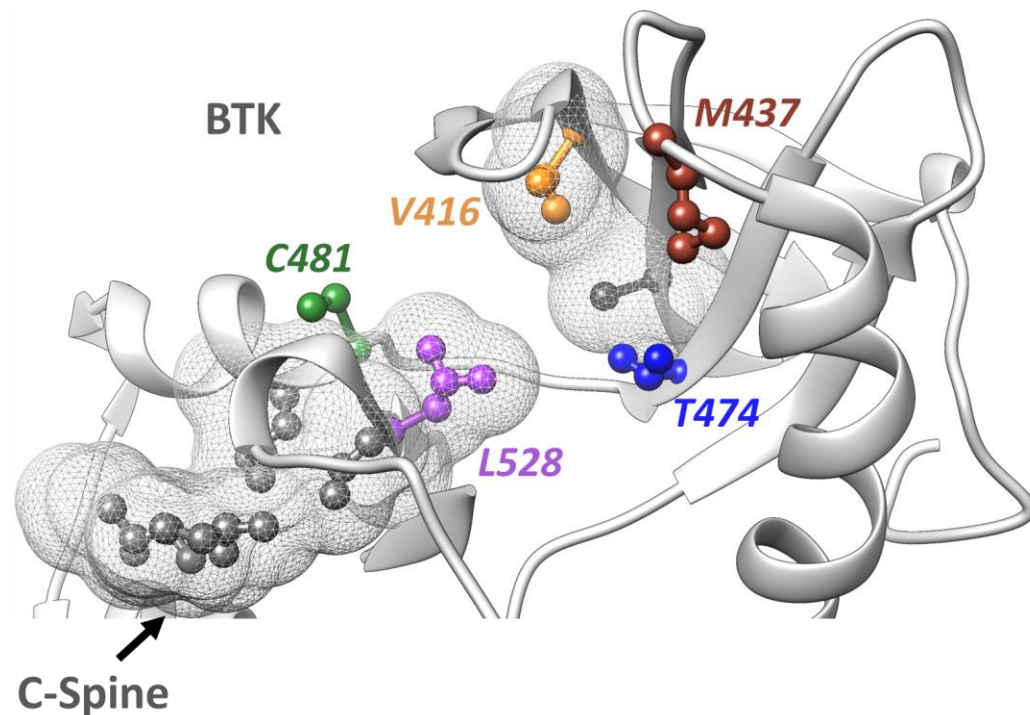


Wang, Mi, Thompson, et al. NEJM 2022

# Structural and Enzymatic Studies of New BTKi-Resistant Mutations Confirms BTK Scaffolding Function

Mutations revealed by non-covalent inhibitors interrupt the catalytic C-spine of kinase domain

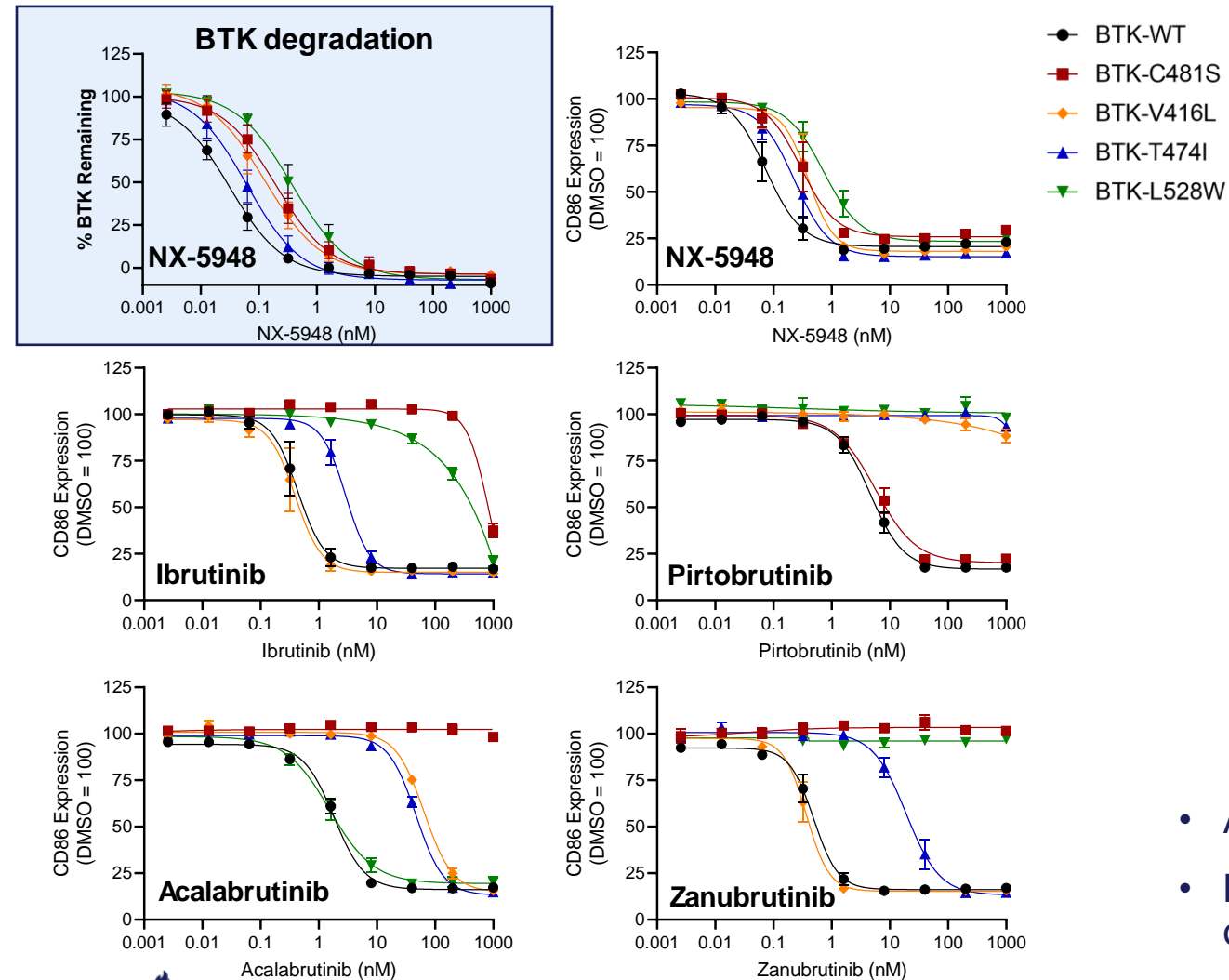
Some mutations that confer resistance to BTKis lack kinase activity yet still potentiate BCR signaling





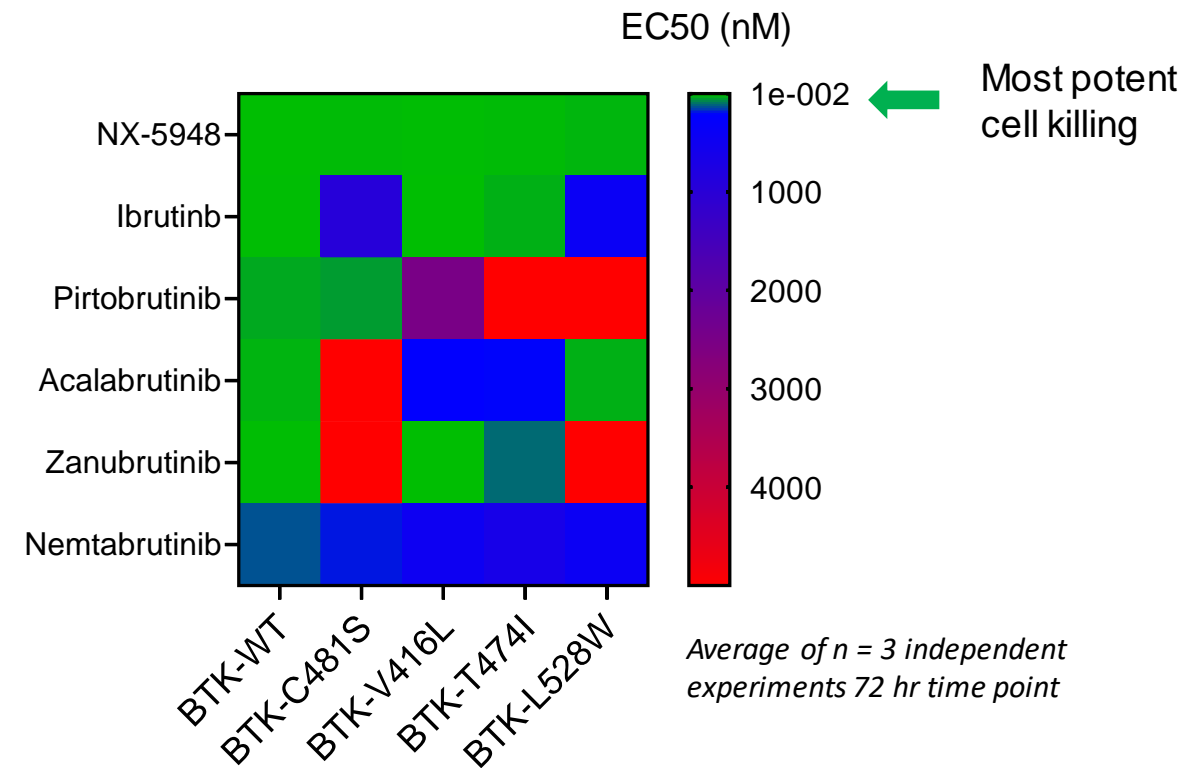
# NX-5948 is More Potent and Broadly Active Than All BTK Inhibitors Tested

## BTK degradation and activation marker suppression in TMD8 tumor cells



Average of n = 3 independent experiments +/- SEM

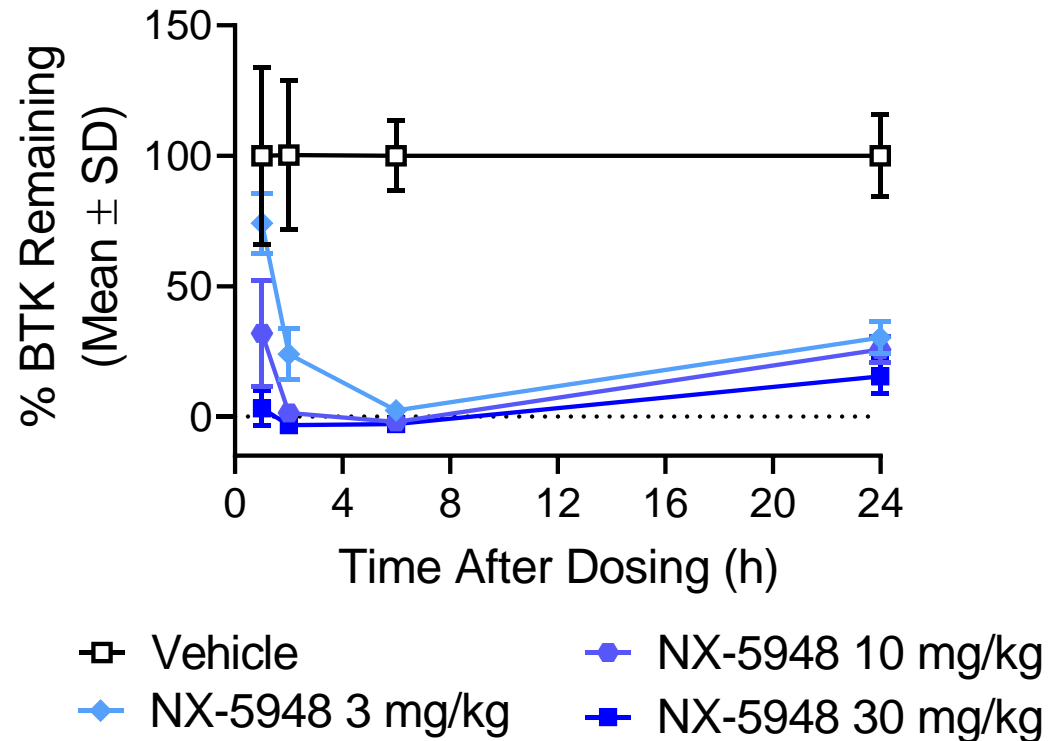
## TMD8 tumor cell killing



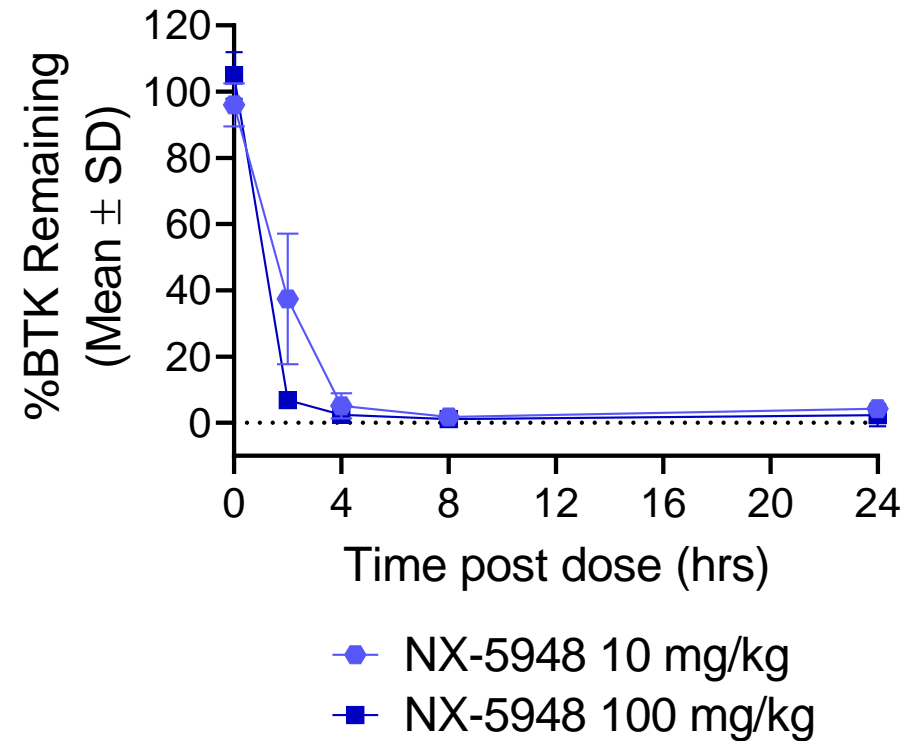
- All inhibitors have resistance mutation liabilities
- NX-5948 displays potent cell killing and maintains suppression of CD86 in the context of key resistance mutations

# A Single Oral Dose of NX-5948 Promotes Rapid and Complete BTK Degradation in Mouse and Primate B cells

## BTK Levels in Mouse Circulating B Cells



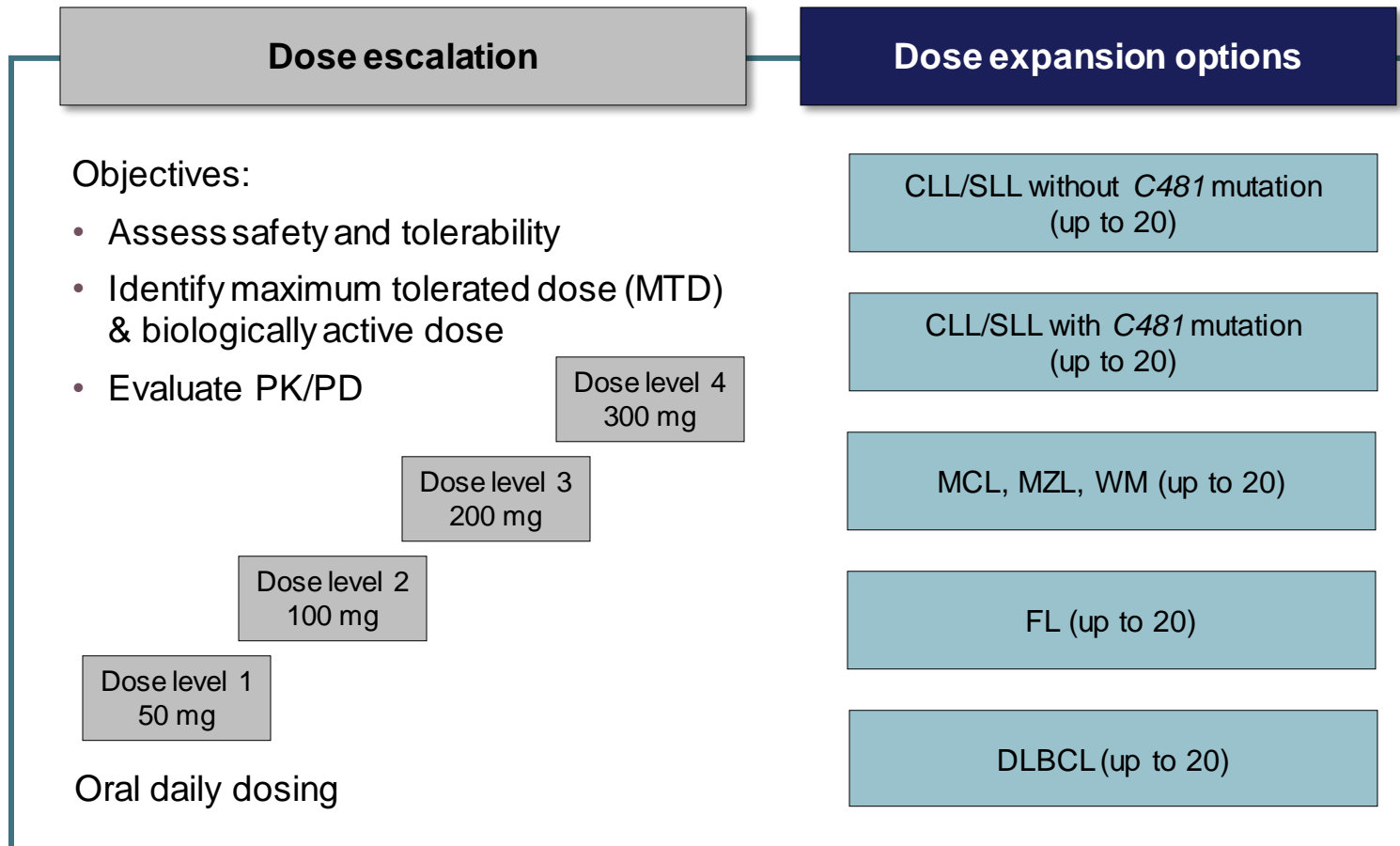
## BTK Levels in Cyno Circulating B Cells



- In mice, BTK levels increased 24 hours after dosing from BTK resynthesis
- In cynomolgus monkeys, BTK levels remained suppressed at 24 hours

# NX-5948-301: Trial design

## Phase 1 trial in adults with relapsed/refractory B-cell malignancies

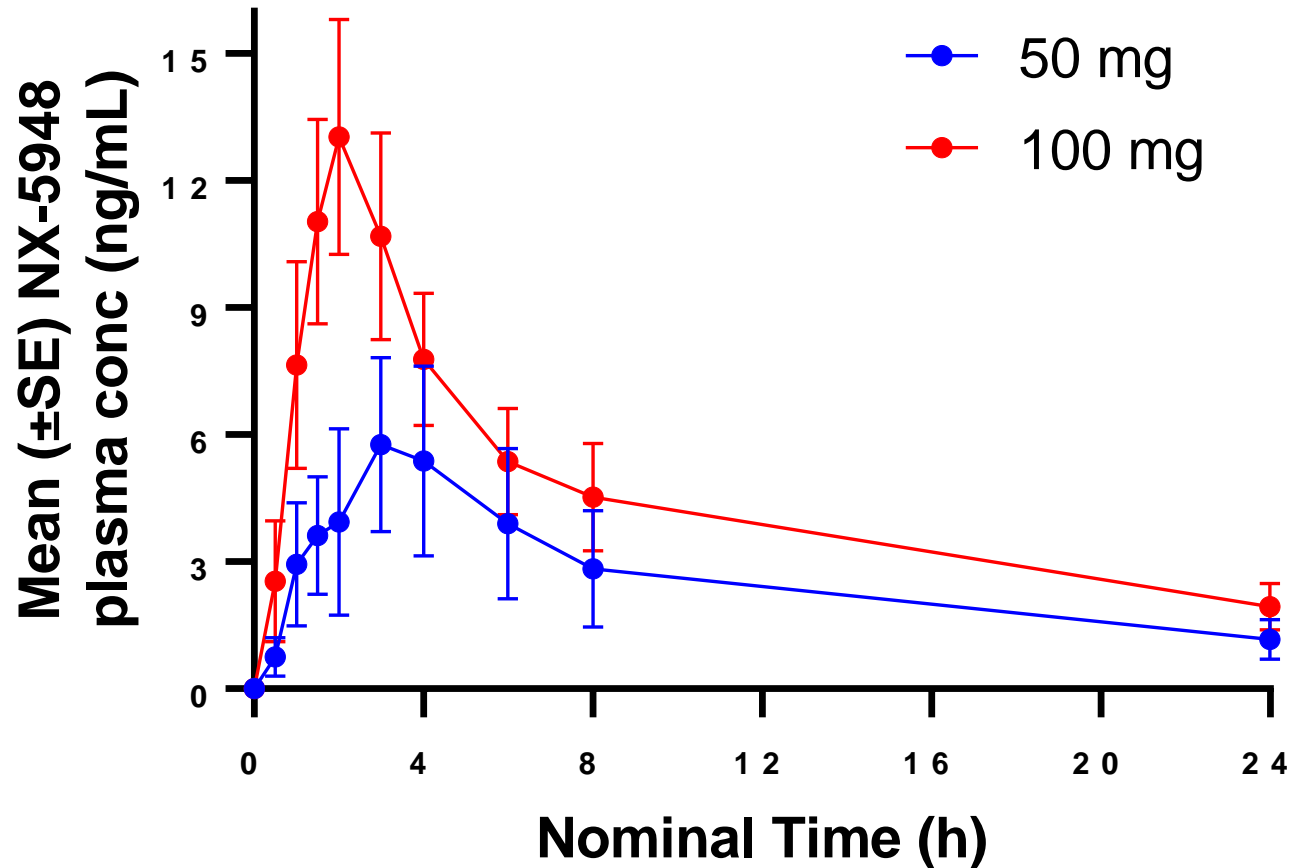


- Phase 1a dose escalation is ongoing at clinical sites in the U.K.
- Plans to initiate U.S. sites in early 2023

CLL, chronic lymphocytic leukemia; DLBCL, diffuse large B-cell lymphoma; FL, follicular lymphoma; MCL, mantle cell lymphoma; MZL, marginal zone lymphoma; PD, pharmacodynamics; PK, pharmacokinetics; WM, Waldenstrom's macroglobulinemia

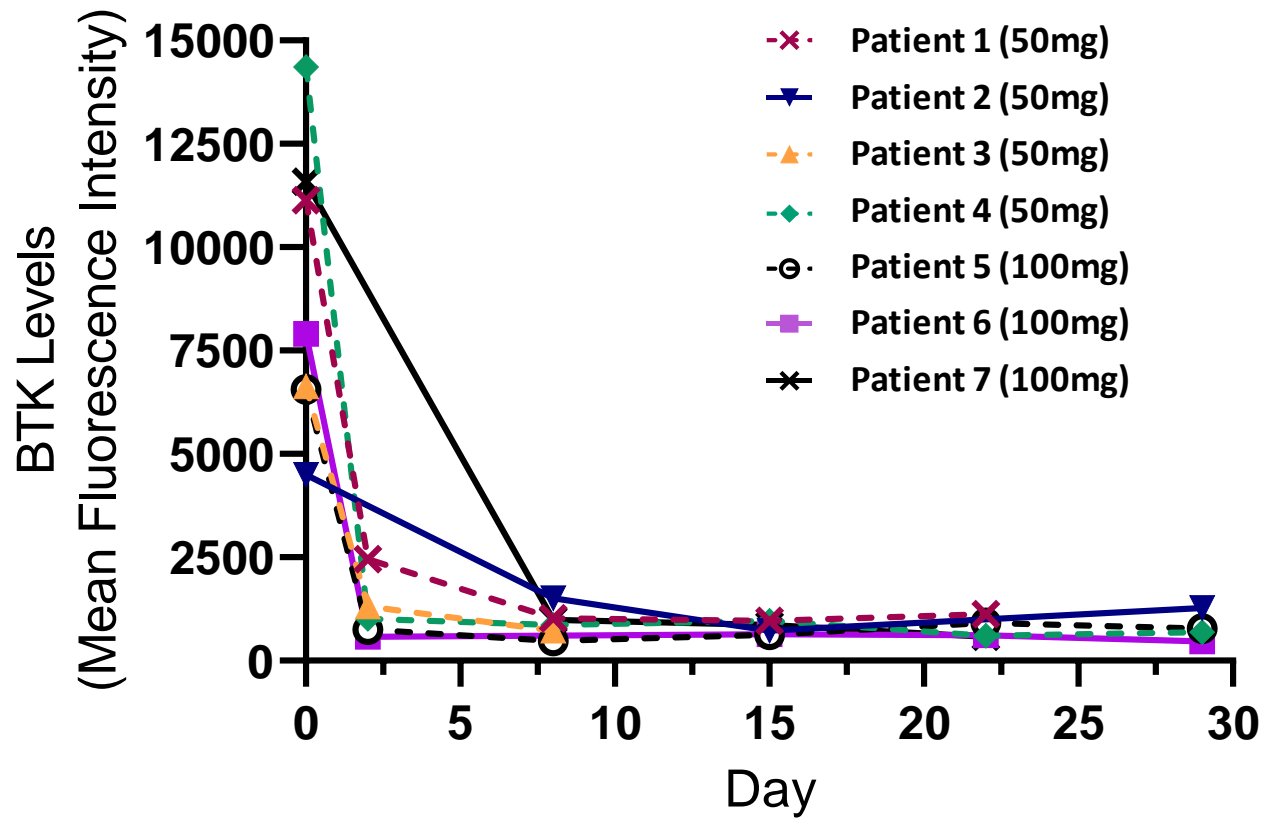


# Preliminary Data Suggests NX-5948 Exhibits Linear PK and Supports Daily Dosing



- Half-life ~12 hours
- $T_{max}$  of 2-3 hours
- Exposures (both AUC and  $C_{max}$ ) increase linearly with dose

# NX-5948: Rapid, Robust and Sustained BTK Degradation



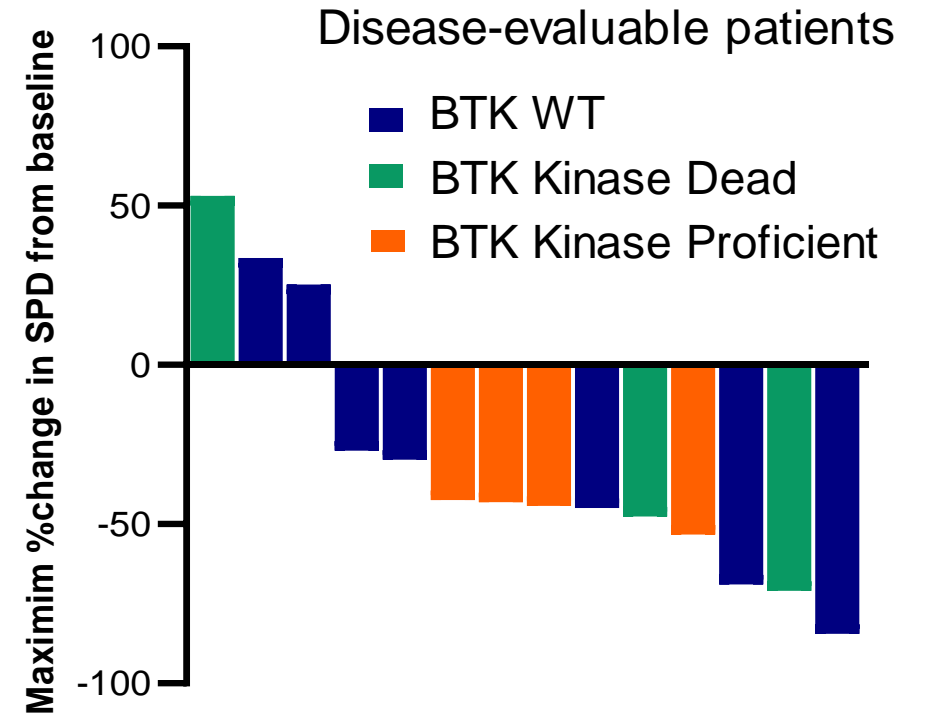
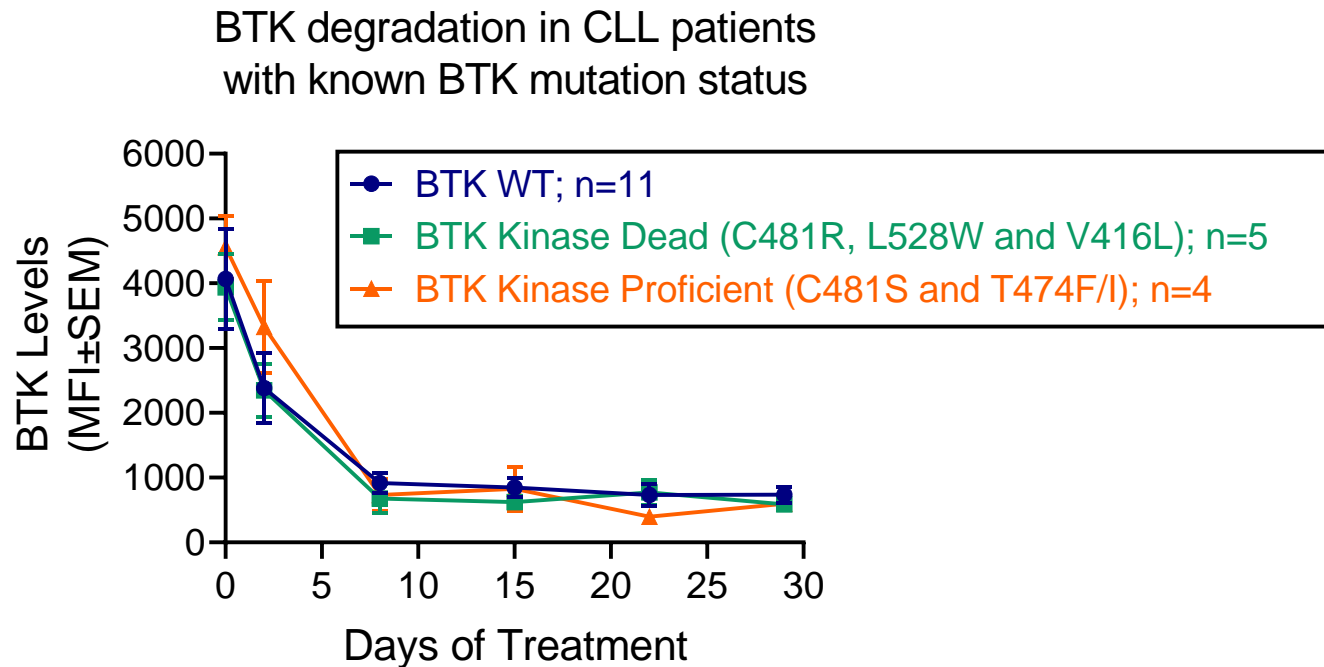
BTK levels are evaluated in real time in a FACS-based assay on whole blood from patients treated with NX-2127

Initial proof of mechanism

- Rapid and sustained degradation of BTK
- Robust BTK degradation observed in all patients tested to date
- Dose escalation ongoing in patients with relapsed/refractory B cell malignancies

# Treatment with Nurix's NX-2127 Degradator Leads to BTK Degradation and Clinical Response Irrespective of Mutation Status

- BTK degradation of 80% was achieved in CLL patients, including those harboring BTK C481, T474, L528, and V416 resistance mutations



Patients with kinase dead mutations are classified as kinase dead regardless of co-occurrence of kinase proficient mutations

# NX-5948: BTK Degradation Demonstrates Rapid and Sustained BTK Degradation With Early Signs of Differentiated Safety

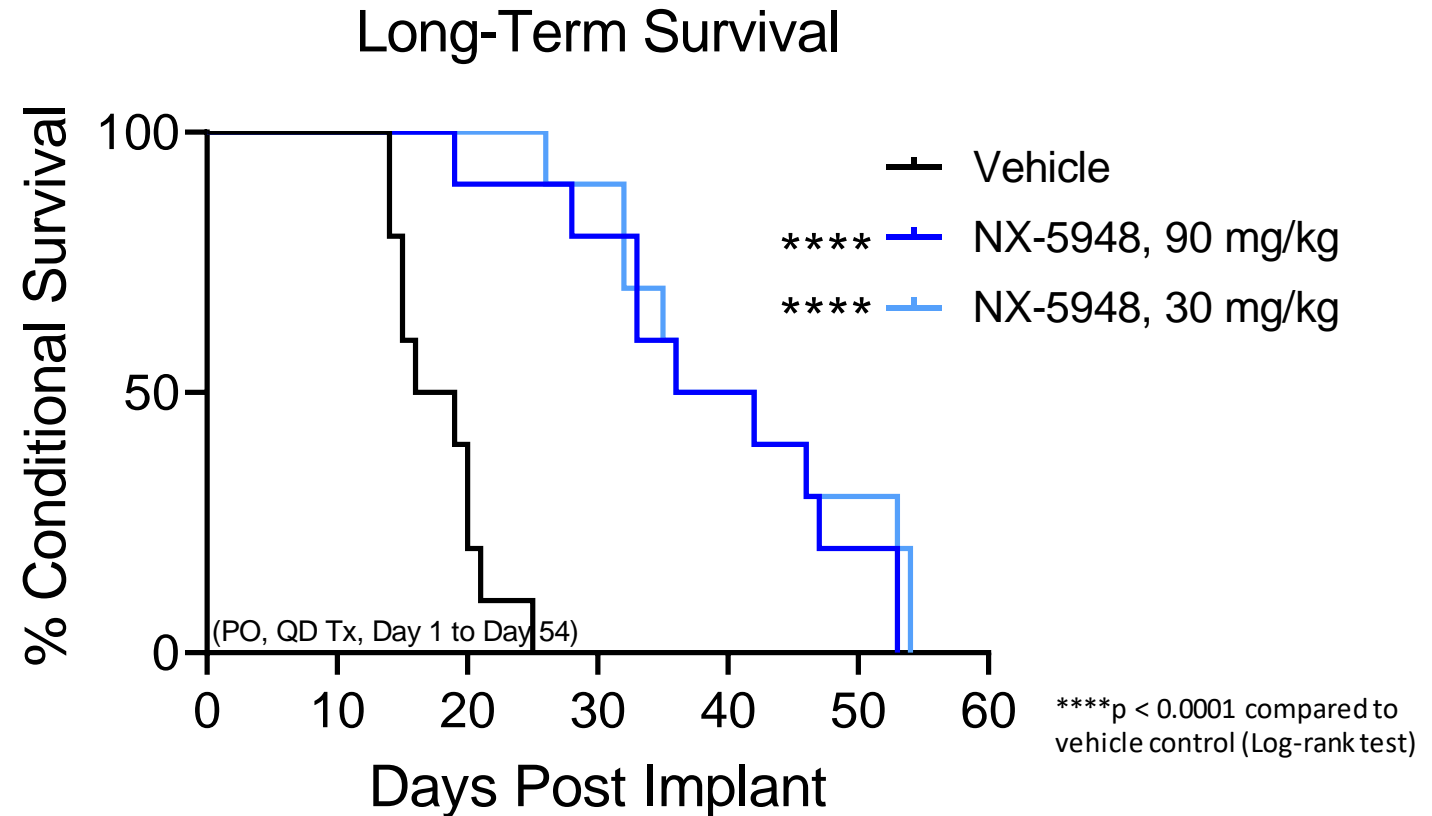
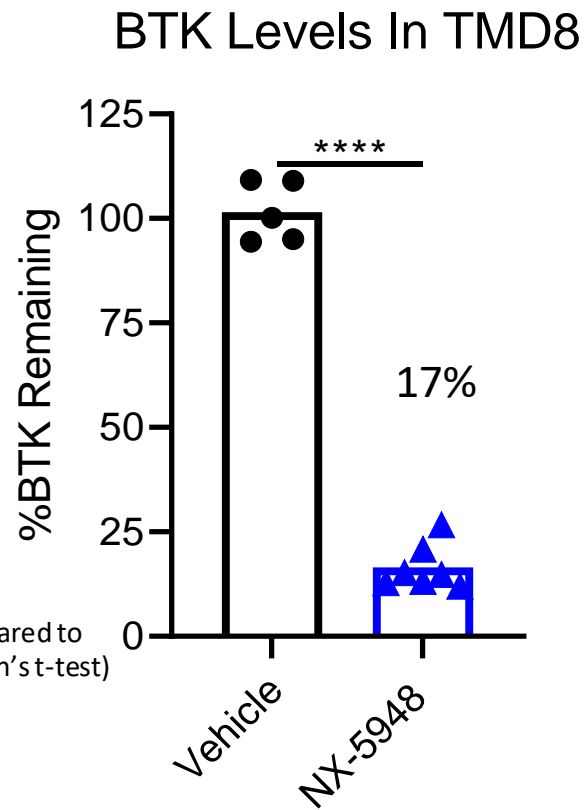
## Phase 1a Dose Escalation

- Early evidence of target engagement
- Rapid and sustained BTK degradation in all patients
- No evidence of immunomodulatory associated adverse events

## Next steps:

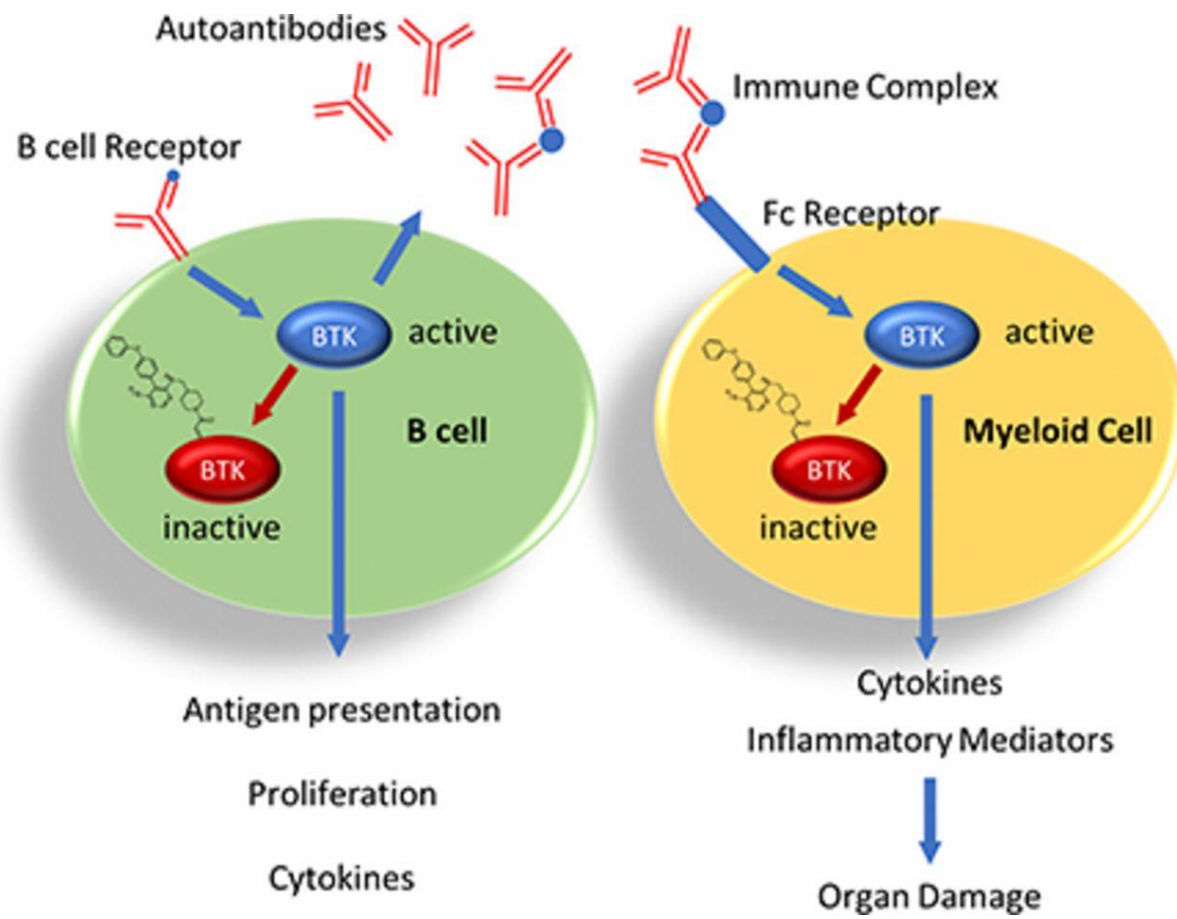
- Initiate clinical sites in the U.S.
- Identify Phase 1b expansion dose
- Select indications for cohort expansion with initial focus likely in CLL

# Oral Administration of NX-5948 Degrades BTK in Tumor Cells and Prolongs Survival in a Mouse Model of CNS Lymphoma



5 x 10<sup>5</sup> TMD8 cells implanted by intracranial injection on Day 0  
NX-5948 administered orally QD Days 1-11 (left) or Days 1-54 (right)  
BTK levels assessed 24 h after the 11<sup>th</sup> dose by flow cytometry

# BTK Regulates Signaling Pathways in B cells and Myeloid Cells that Contribute to Autoimmunity

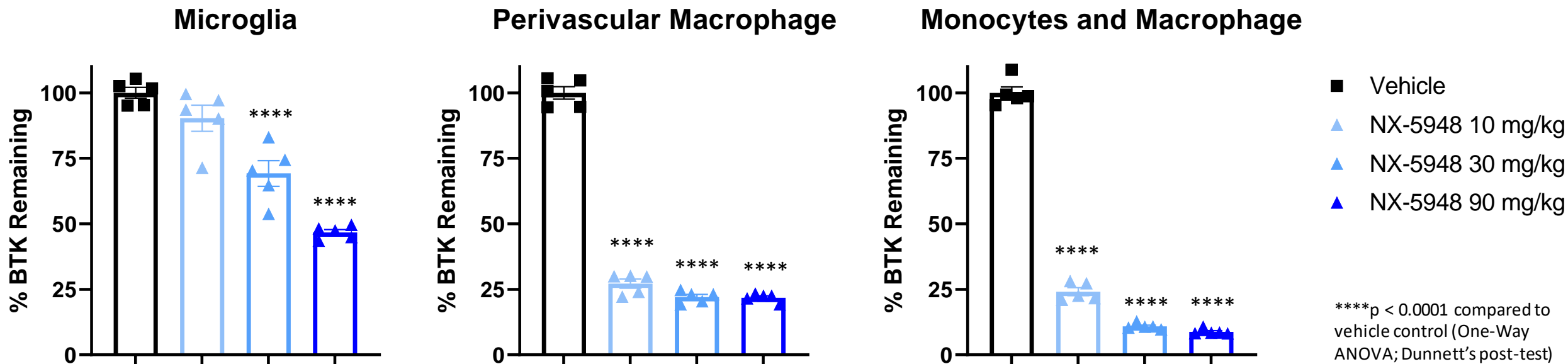


- BTK transduces signals downstream of the B cell receptor, toll-like receptors, and Fc receptors in B cells and myeloid cells
- BTK regulates B cell maturation, autoantibody production, and antigen presentation to T cells
- BTK regulates immune-complex mediated activation of myeloid cells which directly damages tissues

Haselmayer, JI, 2019

# NX-5948 Degrades BTK in Microglia and Macrophage in Brains of Naïve Mice

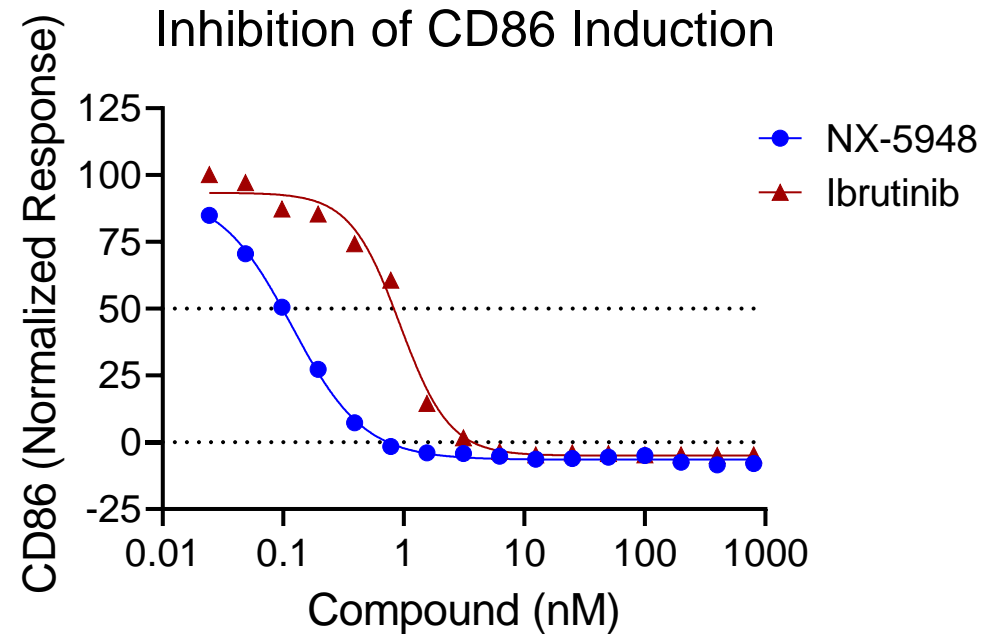
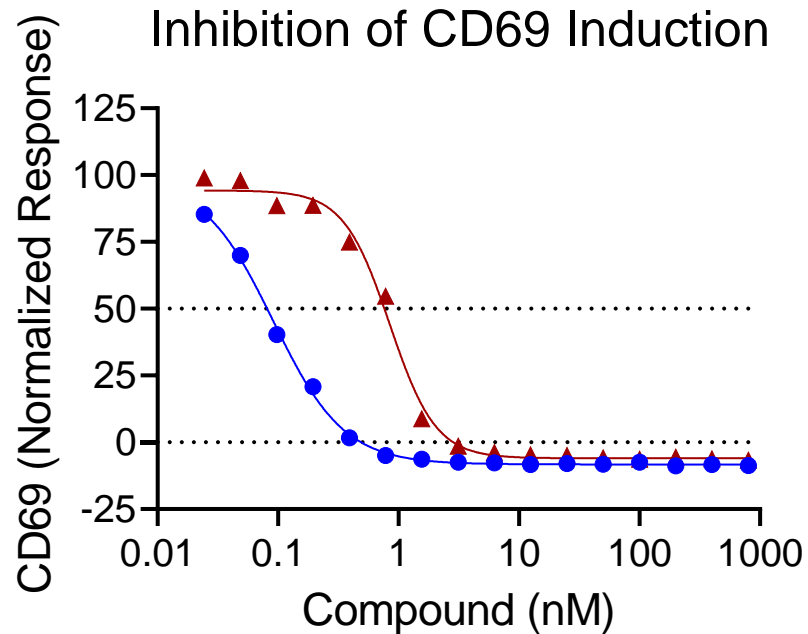
- NX-5948 drives dose-dependent BTK degradation in cells isolated from brains
- Magnitude of BTK degradation depends on dose and cell type



NX-5948 administered orally QD x 3 days to naïve C57BL/6J mice. BTK levels assessed 8 h after 3<sup>rd</sup> dose by flow cytometry.

# NX-5948 is a Potent Inhibitor of Anti-IgM-Mediated B Cell Activation

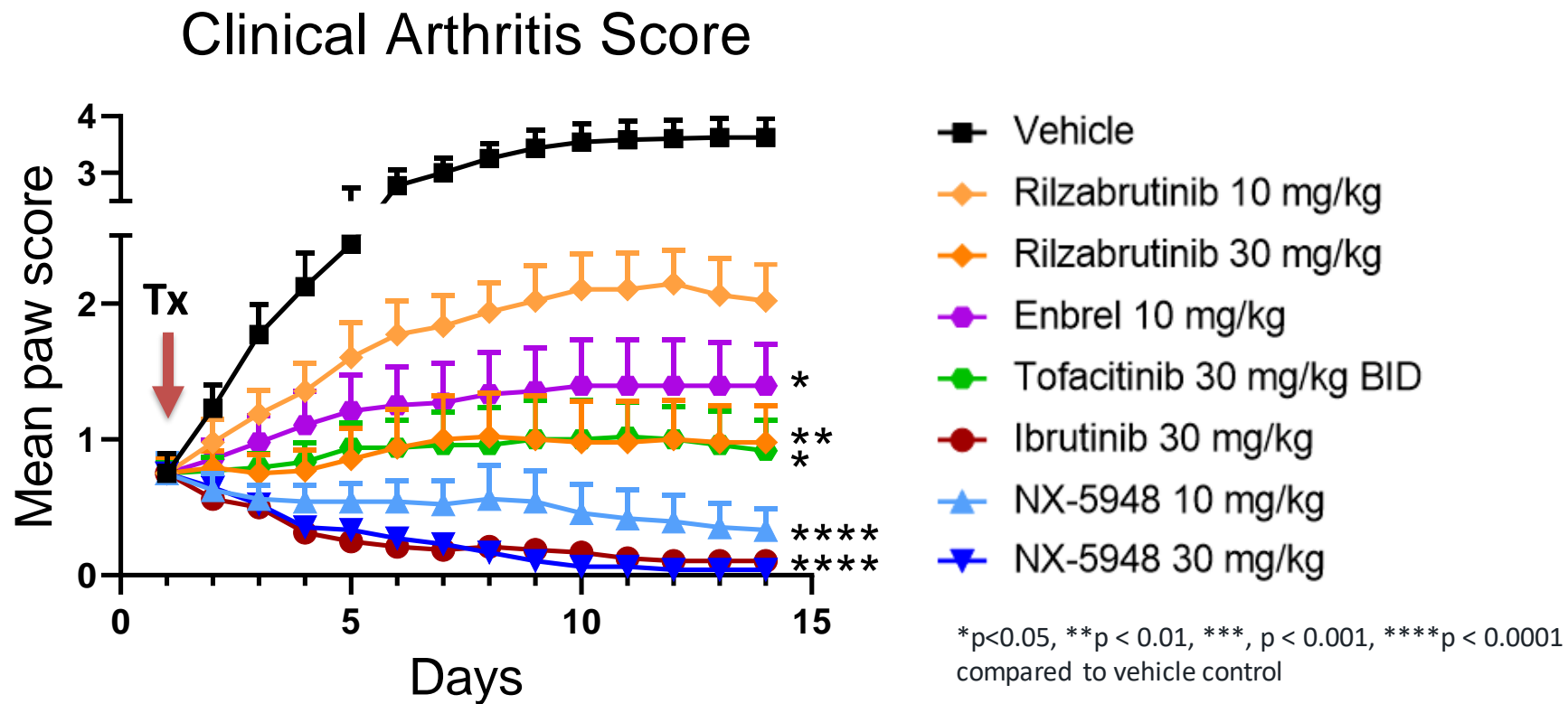
NX-5948 is more potent than ibrutinib at inhibiting B cell activation following BCR stimulation



N=1 donor  
Data representative of 3 independent donors

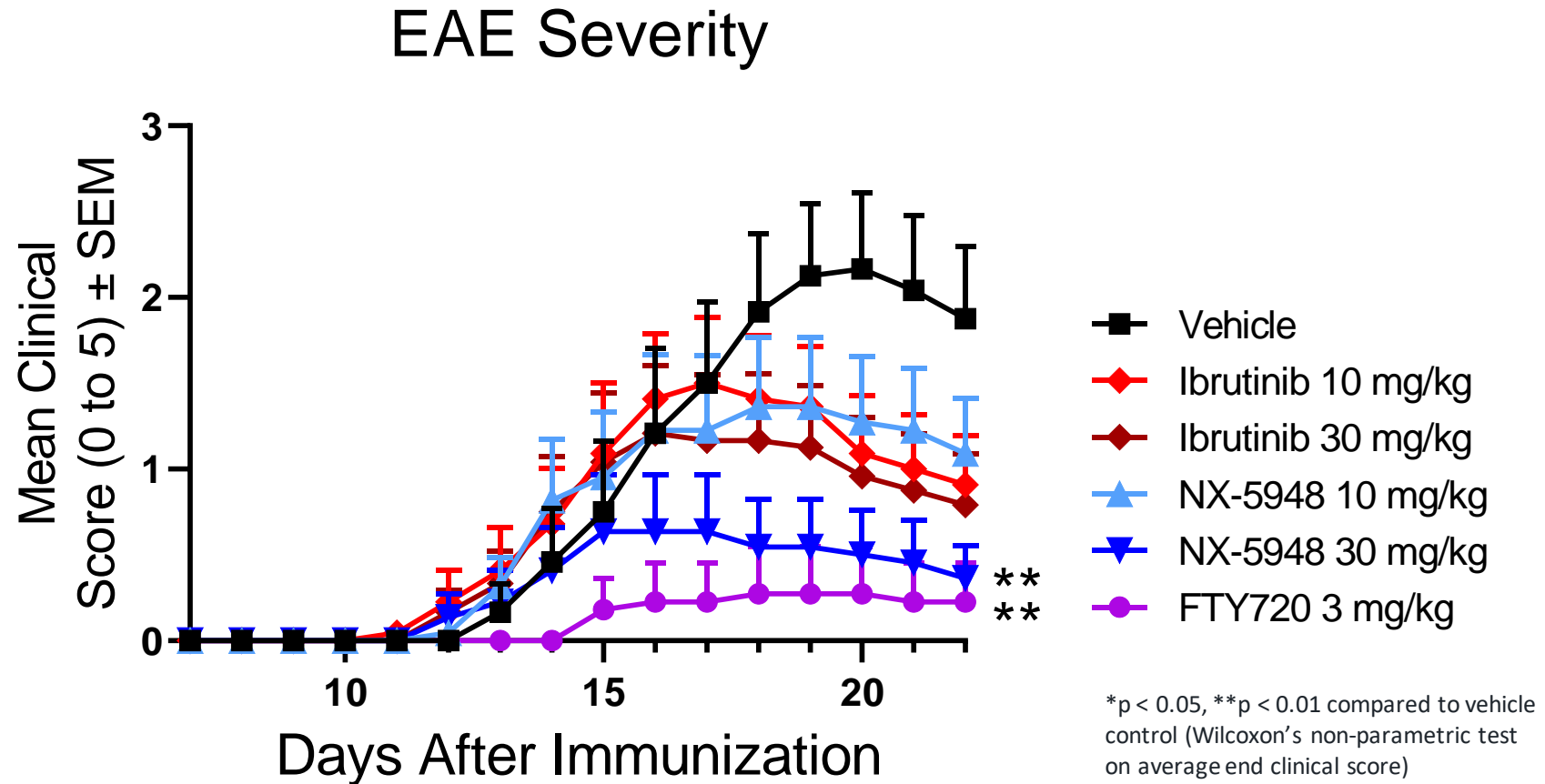


# NX-5948 Improves Arthritis Clinical Scores and Provides a Similar or Greater Benefit as BTKi or Standard of Care Agents



- 30 mg/kg NX-5948 resulted in complete resolution of symptoms in 10/12 mice
- 30 mg/kg ibrutinib resulted in complete resolution of symptoms in 7/12 mice
- Oral NX-5948 treatment resulted in lower mean clinical score than Rilzabrutinib, Tofacitinib, or Enbrel

# NX-5948 Improves EAE Clinical Scores and Provides More Benefit Than Ibrutinib

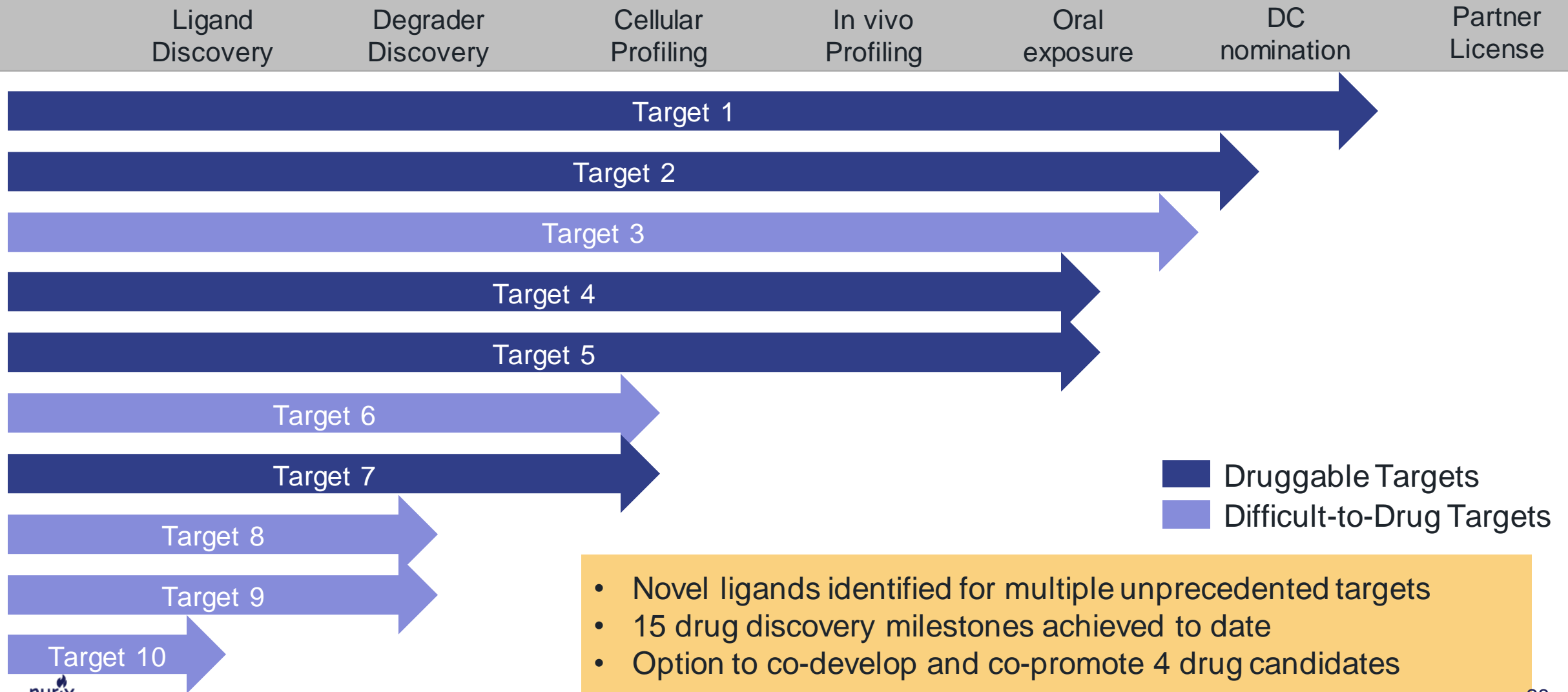


# Nurix's Clinical Experience with Targeted Protein Degradation Illustrates the Benefits of Novel Therapeutic Modalities

## Catalytic modality of TPD can provide:

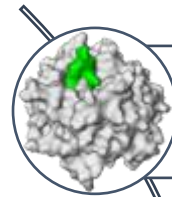
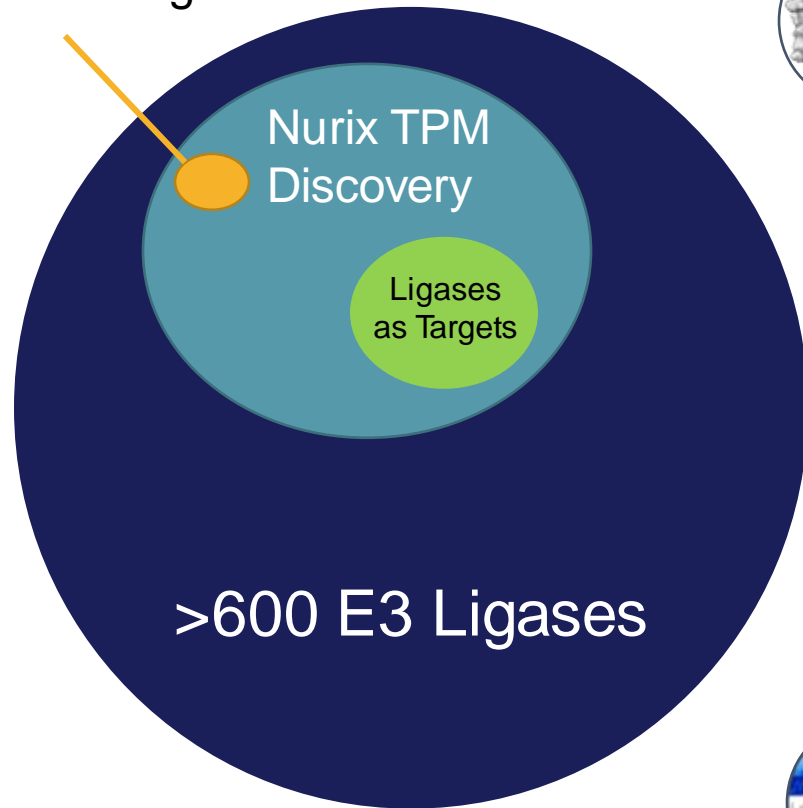
1. Increased target coverage
  - One degrader can degrade many protein molecules
2. Prolonged activity against a target
  - Protein synthesis rather than drug clearance is required to restore target
  - Ideally suited for non-daily delivery methodologies
3. Ability to address mutational resistance
  - Nurix's BTK degraders are potent against unanticipated BTK active site mutations
4. Ability to address novel and non-enzymatic targets
  - Degradation is agnostic to protein catalytic function; noncatalytic proteins can be targeted
  - Structured (e.g. transcription factors) and 'plastic' proteins can be addressed

# Leveraging Early Success with BTK Degraders to Build a Broad Collaboration Pipeline that Includes Many Unprecedented and First-In-Class Targets

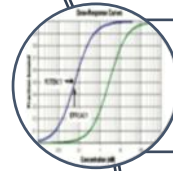


# Unique TPM Opportunities Can Be Unlocked by Harnessing or Inhibiting Additional E3 Ligases

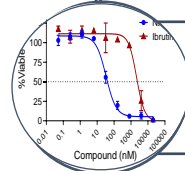
Precedented TPD ligases



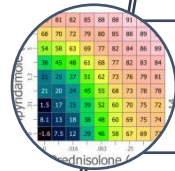
Unlock novel targets and pathways



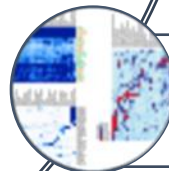
Improve target coverage and selectivity



Overcome inhibitor resistance



Neosubstrate synergy with target biology



Enhance selectivity through ligase specificity

# Nurix Has a Comprehensive Degradator Discovery Pipeline

Ligand  
Discovery

Ligand  
Optimization

Degradator  
Profiling

DC  
nomination

Clinic

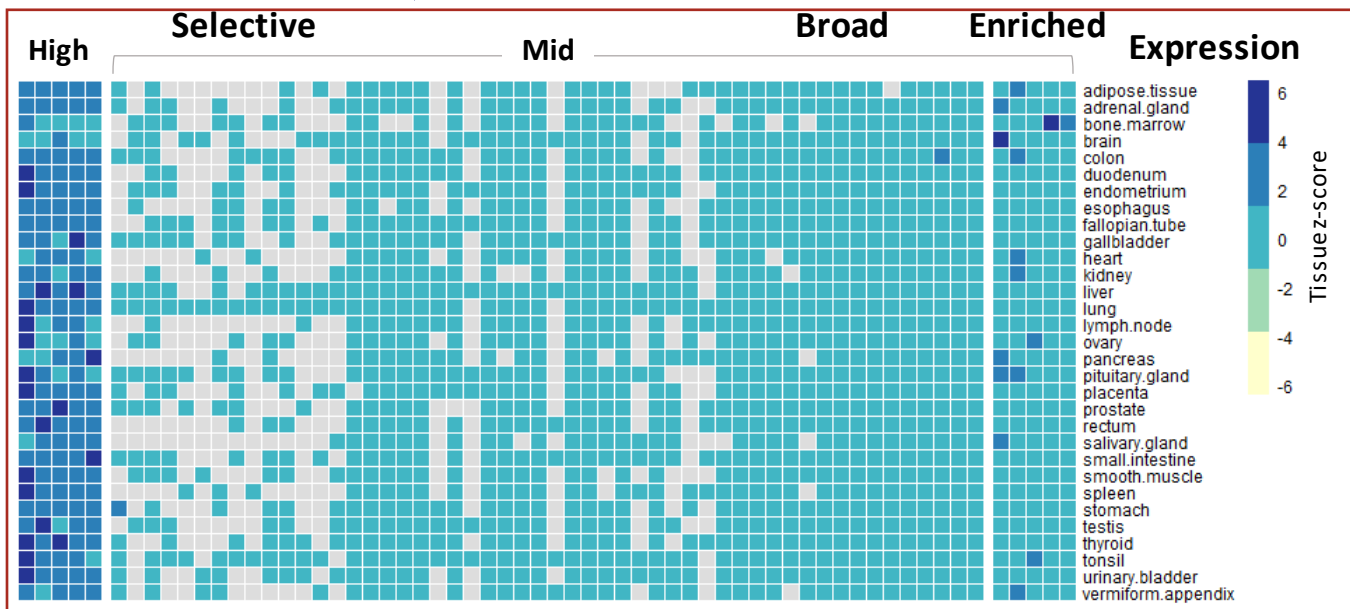
CBL Inhibitors and BTK Degraders

20 Ligases & UPS Targets

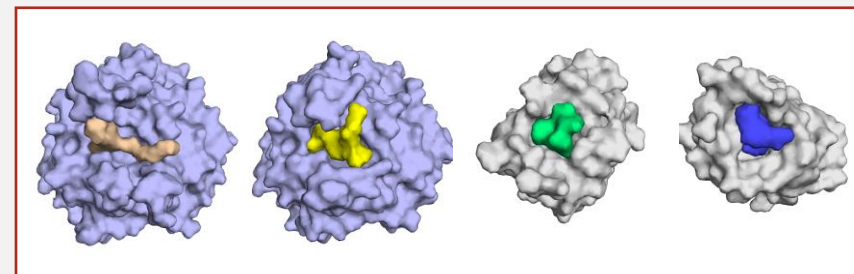
11 Ligases & UPS Targets

48 Targets

>70 Degradation Effectors  
in Discovery Pipeline



Examples:



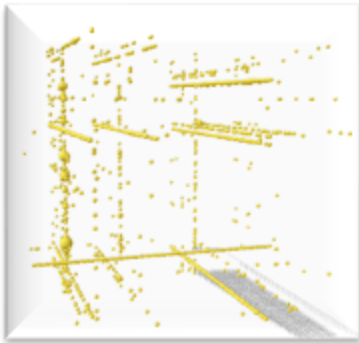
Multiple ligands identified for novel ligases with broad expression and high processivity in cancer and normal tissues

# Nurix Has a Comprehensive Degradator Discovery Pipeline

## Ligase prioritization

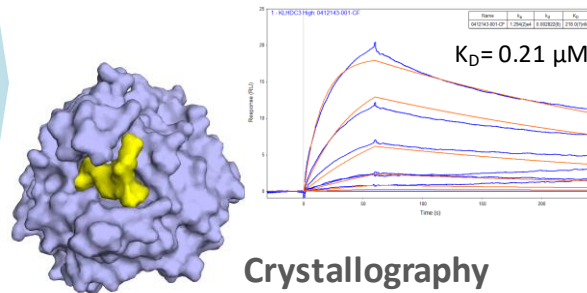
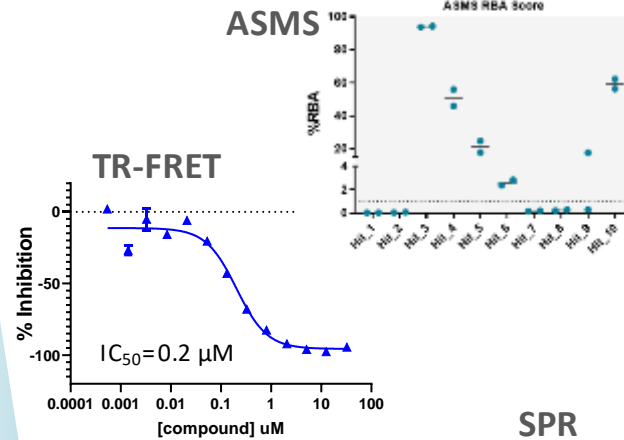
- Fn**  
Function
- Ex**  
Expression
- Ac**  
Activity
- Tr**  
Tractability

## DEL screen for ligase binders



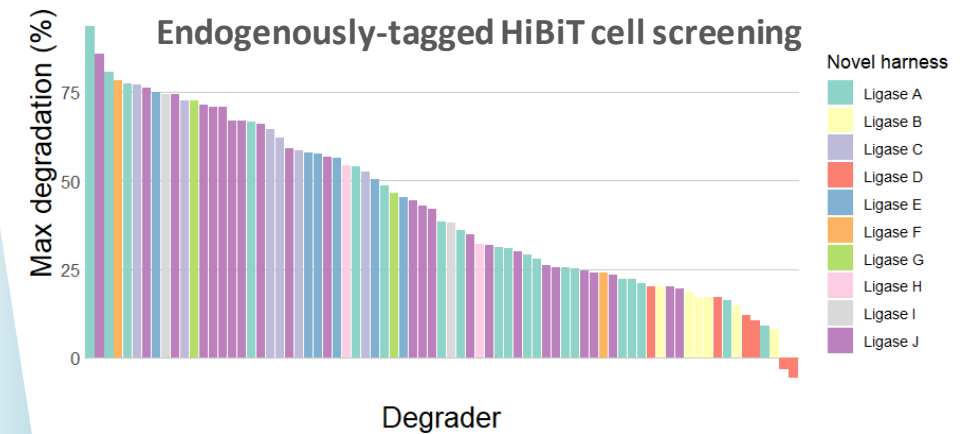
- Screening complex mixtures without a biochemical assay
- Highly multiplexed analysis of multiple conditions to identify substrate competitive and allosteric binders
- Internalization of published ligands

## Harness optimization

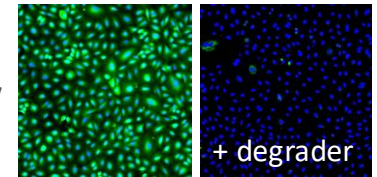


- An array of biochemical, biophysical, and structure elucidation tools used to identify and optimize high affinity harnesses

## Degradator activity characterization



**High-content assay (HT-GFP)**



- Automated synthesis of bivalent degrader library with validated target binders
- High-throughput cellular screen for active degraders
- Extensive panel of conditions to confirm ternary complex and UPS-driven MOA

Thank you!

