

#### Targeting tumor suppressor loss to unmask vulnerabilities in cancer for the next generation of precision medicines

Corporate Overview June 2022



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For example, statements concerning the following include or constitute forward-looking statements: Tango has a sustainable pipeline of novel drugs and drug programs; the Company's drug candidates planned for 2022; TNG908 is a potentially first in class PRMT5 inhibitor that is synthetic lethal with MTAP deletion; Company has a cash runway through 2H 2024; the expected timing of: (i) development candidate declaration for certain targets, (ii) initiating IND-enabling studies; (iii) filing INDs, (iv) clinical trial initiation and (v) the release of preliminary and final safety and efficacy data from clinical trials; the Company has a sustainable precision oncology pipeline of novel targets; the anticipated benefits of synthetic lethal drugs; expected timing of first patient dosed and timing of initial clinical data for TNG908; there is a clear path to clinical POC in MTAP-null solid tumors with multiple histologies; potential for histology-agnostic registration for PRMT5 inhibitor with broad based activity across tumor types; planned expansion cohort of the TNG908 phase 1/2 clinical trial for glioblastomas; TNG908 may be more effective than non-brain penetrant molecules in patients with brain metastases; TNG908's large therapeutic index expected to allow selection of optimal efficacious dose below MTD; the Company will be pursuing novel combination therapies with inhibitors that have a complementary mechanism of action; projected dose escalations in TNG908 phase 1/2 study; TNG908 expected to be brain penetrant in clinical study; TNG462 is potential best-in-class PRMT5 inhibitor (and has potential for broader and deeper clinical activity); the clinical development plan for PRMT5 franchise therapies; one of the largest genetically defined patient populations may benefit from the PRMT5 franchise; future clinical trial designs; the Company's belief regarding a strong IP position for USP1 pipeline product; synergy of USP1 in both PARP-sensitive and -resistance models suggests potential to meaningfully expand patient benefit from PARP inhibitors; Tango has sufficient cash balance to fund operations into second half of 2024 (and is sufficient to achieve multiple projected key milestones); the potential clinical benefit of KRAS inhibitor and TNG908 in MTAP null lung adenocarcinoma; potential for future TNG908 expansion cohorts to evaluate activity in a range of histologies and optionality for multiple registration strategies; Tango is planning multiple rational combination trials in PRMT5 franchise based on strong pre-clinical synergy data; the TNG908 composition of matter patent applications will provide meaningful patent protection through at least 2041; and the anticipated benefits of future product candidates including those identified in the future through the Tango discovery platform. Such forward-looking statements are subject to risks, uncertainties, and other factors which could cause actual results to differ materially from those expressed or implied by such forward looking statements. These forward-looking statements are based upon estimates and assumptions that, while considered reasonable by Tango and its management are inherently uncertain. Drug development, clinical trials and commercialization involve a high degree of risk, and only a small number of research and development programs result in commercialization of a product. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Factors that may cause actual results to differ materially from current expectations include, but are not limited to: Tango has a limited operating history and has not generated any revenue to date from drug sales, and may never become profitable (and may utilize cash resources more quickly than anticipated); Tango has limited experience with conducting clinical trials (and will rely on a third party to operate the clinical trial for TNG908) and may not be able to commence the clinical trial or dose patients when expected and may not generate results in the anticipated timeframe (or at all); the benefits of Tango pipeline products and potential combination therapies that are seen in pre-clinical experiments may not be present in clinical trials or in use commercially or may not be safe and/or effective in humans (and Tango or a third-party may not be able to obtain approval or commercial sales of any combination therapies): Tango has incurred significant operating losses and anticipates continued losses for the foreseeable future: we will need to raise capital in the future and if we are unable to raise capital when needed or on attractive terms, we would be forced to delay, scale back or discontinue some of our development programs or future commercialization efforts; we may be unable to advance our preclinical development programs into and through the clinic for safety or efficacy reasons or experience significant delays in doing so as a result of factors beyond Tango's control; Tango's approach to the discovery and development of product candidates is novel and unproven, which makes it difficult to predict the time, cost of development, and likelihood of successfully developing any products; Tango may not identify or discover development candidates (including next generation products) or may expend limited resources to pursue a particular product candidate or indication and fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success; delays or difficulties in the initiation, enrollment or dosing of patients in clinical trials could delay or prevent receipt of regulatory approvals; our products candidates may cause adverse or other undesirable side effects that could, among other things, delay or prevent regulatory approval; our dependence on third parties for conducting clinical trials and producing drug product; our ability to obtain and maintain patent and other intellectual property protection for our technology and product candidates or the scope of intellectual property protection obtained is not sufficiently broad; and delays and other impacts on product development and clinical trials from the COVID-19 pandemic. Additional information concerning risks, uncertainties and assumptions can be found in Tango's filings with the SEC, including the risk factors referenced in Tango's Annual Report on Form 10-K for the fiscal year ended December 31, 2021 as filed with the SEC on March 28, 2022. You should not place undue reliance on forward-looking statements in this presentation, which speak only as of the date they are made and are qualified in their entirety by reference to the cautionary statements herein. Tango specifically disclaims any duty to update these forward-looking statements.

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# **COMPANY OVERVIEW**



## Tango summary



Precision oncology company based on synthetic lethality, combining discovery and clinical development in the same genetic context



Expanding oncology target space into tumor suppressor gene loss with a productive, state-of-the-art discovery platform



Sustainable pipeline of novel drug programs for cancers with specific tumor suppressor gene Multiple development candidates declared in 2022

A novel synthetic lethal PRMT5 inhibitor for MTAP-deleted cancers in the clinic and a next generation molecule in IND-enabling studies

A novel synthetic lethal inhibitor targeting STK11-induced immune evasion in IND-enabling studies



Broad strategic collaboration with Gilead based on immune evasion effects of tumor suppressor gene loss

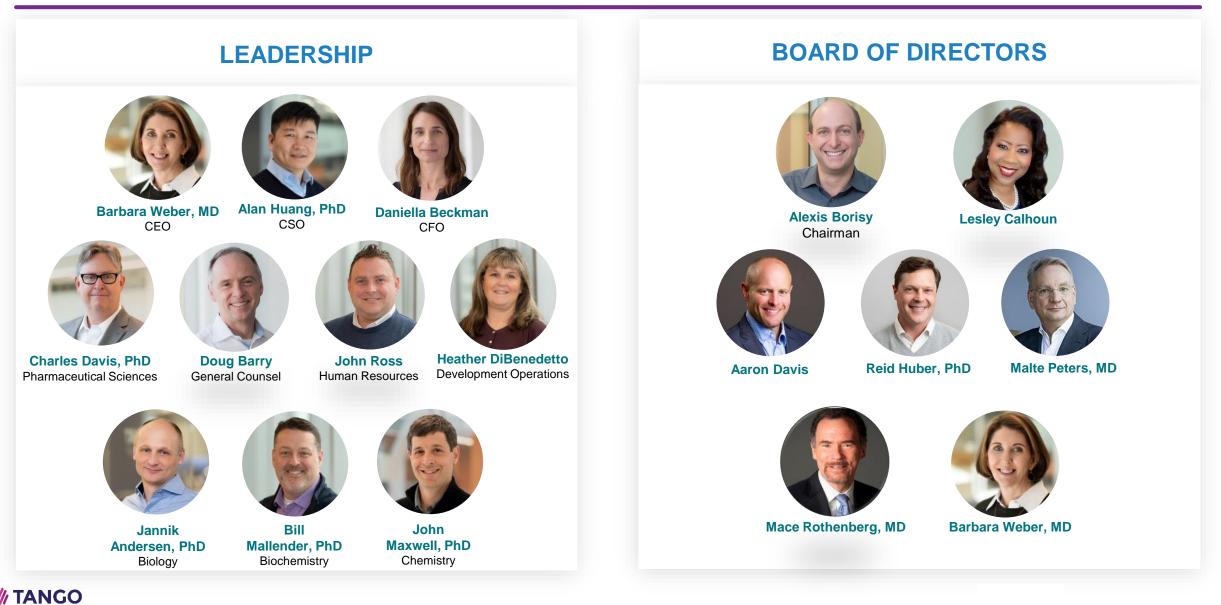


Management team with deep expertise in cancer genetics, drug discovery, clinical development Cash runway through 2H 2024

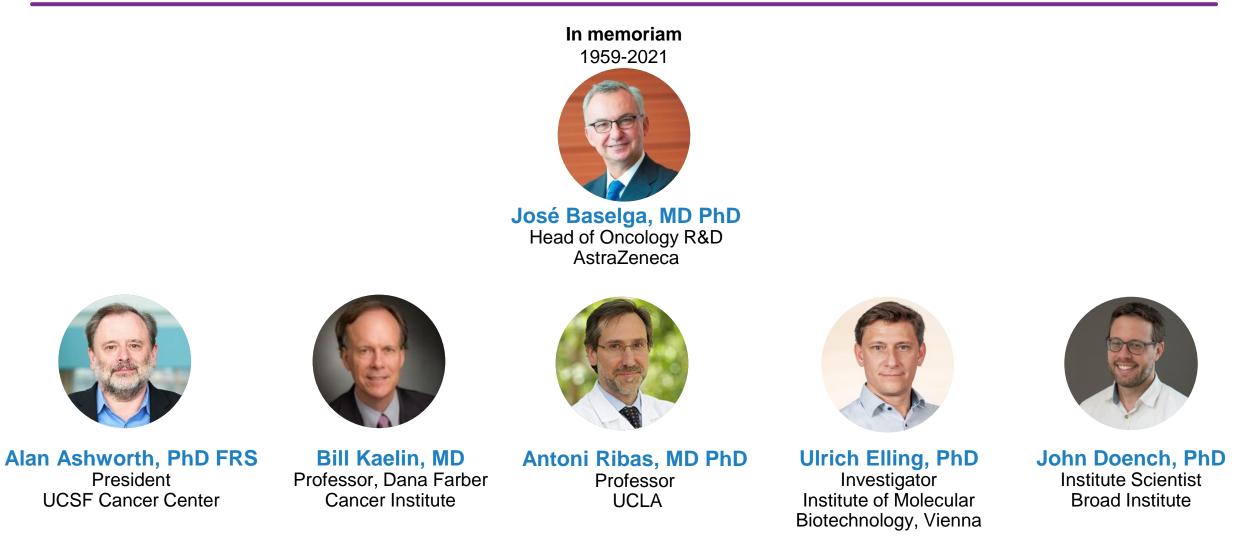
# Leaders in drug discovery, cancer biology, functional genomics and translational medicine

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#### **Scientific advisors**





Leaders in cancer genetics, synthetic lethality, CRISPR technology and immuno-oncology

## A strong strategic partnership with Gilead







PROGRAM	PATIENT SELECTION	DISCOVERY	IND- ENABLING	CLINICAL TRIALS		ANTICIPATED MILESTONES
				Phase 1/2	Phase 3	
PRMT5 TNG908	MTAP-del cancers					Initial clinical data 1H 2023
PRMT5 TNG462						IND filing 1H 2023
TARGET 3* TNG260	STK11-mut cancers					IND filing 2023
USP1	BRCA1/2-mut cancers					Development candidate 2H 202
Multiple synthetic lethal targets	Tumor suppressor gene loss					

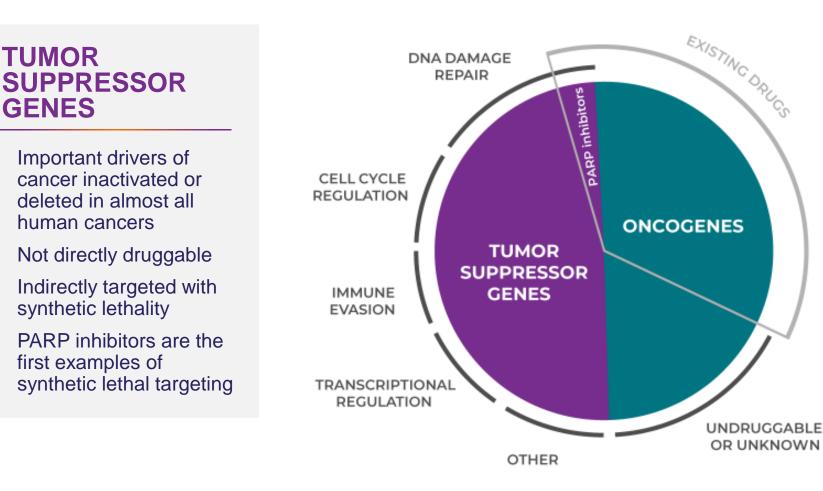
Gilead options and licensed targets not listed \*Wholly-owned immune evasion program



# SYNTHETIC LETHALITY FOR CANCER THERAPEUTICS



#### Most cancer targets are not drugged yet



#### Cancer Genes

#### **SYNTHETIC** LETHALITY

is currently the only way to target tumor suppressor gene loss

#### CRISPR **TECHNOLOGY**

makes large scale synthetic lethal discovery efforts feasible



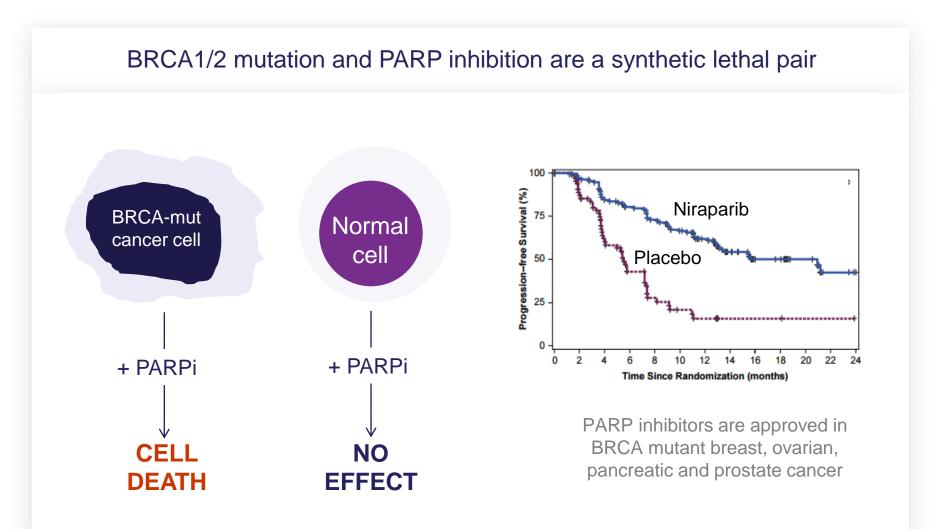
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TUMOR

GENES

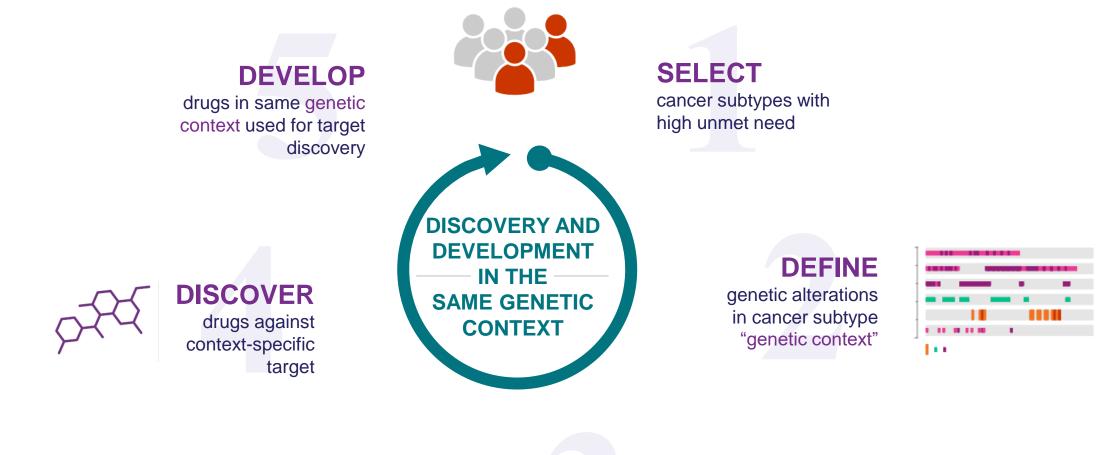
#### PARP is the first synthetic lethal drug target



- PARP inhibitors are clinical validation for synthetic lethal drug targeting
- Synthetic lethal drugs inherently have a wide therapeutic index
- Multiple analyses suggest hundreds of synthetic lethal pairs exist in human cancer



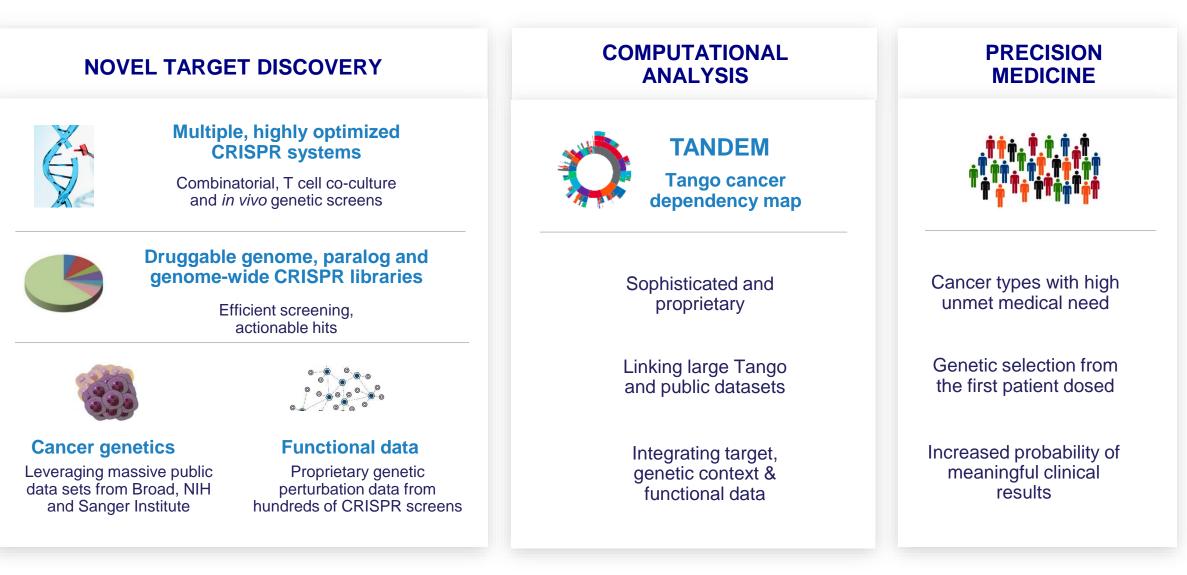
#### A unique approach to target discovery and clinical development in the same genetic context







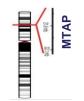
# A robust discovery platform linked to a precision medicine approach



# **PRMT5** inhibition in **MTAP-deleted** cancers



# Lead program is a potentially first-in-class synthetic lethal PRMT5 inhibitor



#### **TNG908**

MTA-cooperative PRMT5 inhibitor that is synthetic lethal with MTAP deletion that is blood-brain barrier penetrant

#### **TNG462**

Next-generation MTA-cooperative PRMT5 inhibitor with enhanced potency and MTAP-selectivity



#### DIFFERENTIATED MECHANISM

Novel MTA-cooperative mechanism targeting tumor cells with MTAP deletion enables stronger target inhibition than non-selective PRMT5 inhibitors



## LARGE PATIENT OPPORTUNITY

10-15% of all human cancers have MTAP deletion

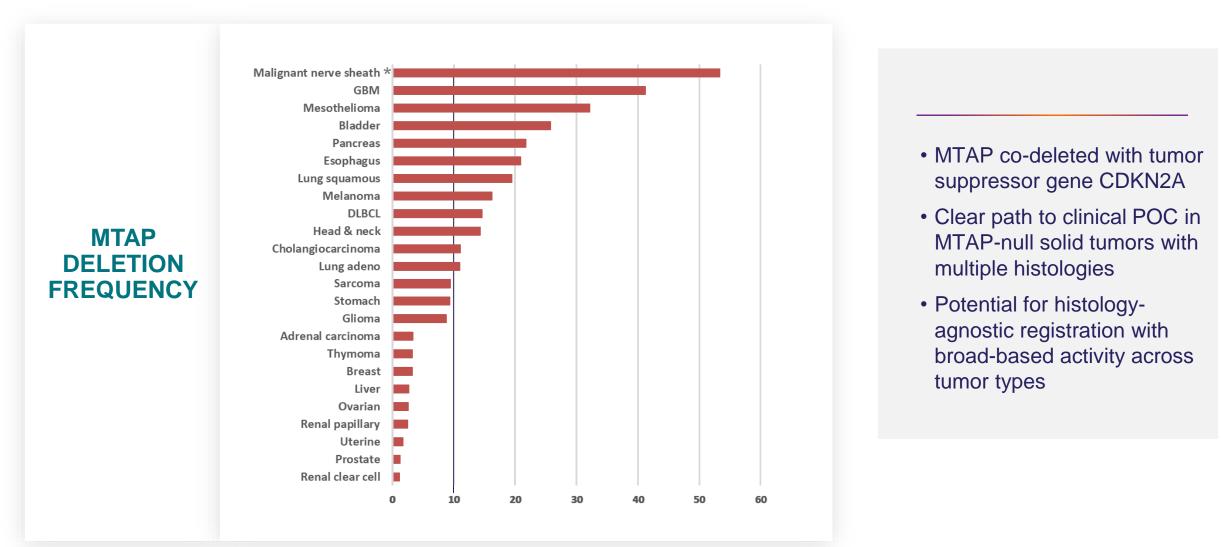


#### **NEAR TERM MILESTONES**

Phase 1/2 is open for enrollment, first patient dosed planned 2Q 2022, initial clinical data 1H 2023



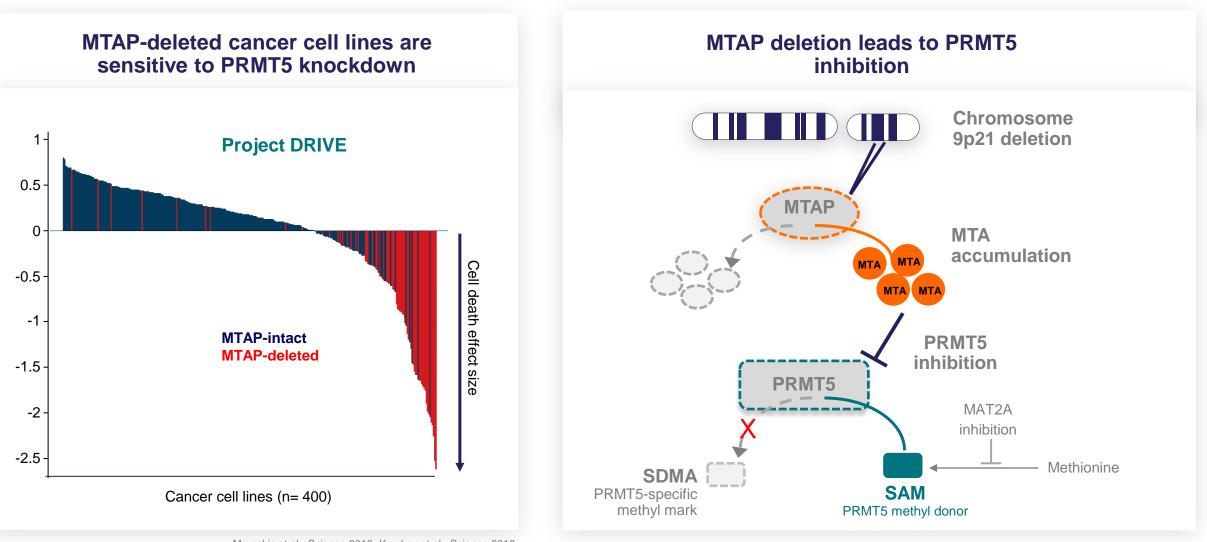
#### 10-15% of all human cancers are MTAP-null



TCGA PanCancer Atlas \*Lee et al, Nature Genetics 2014



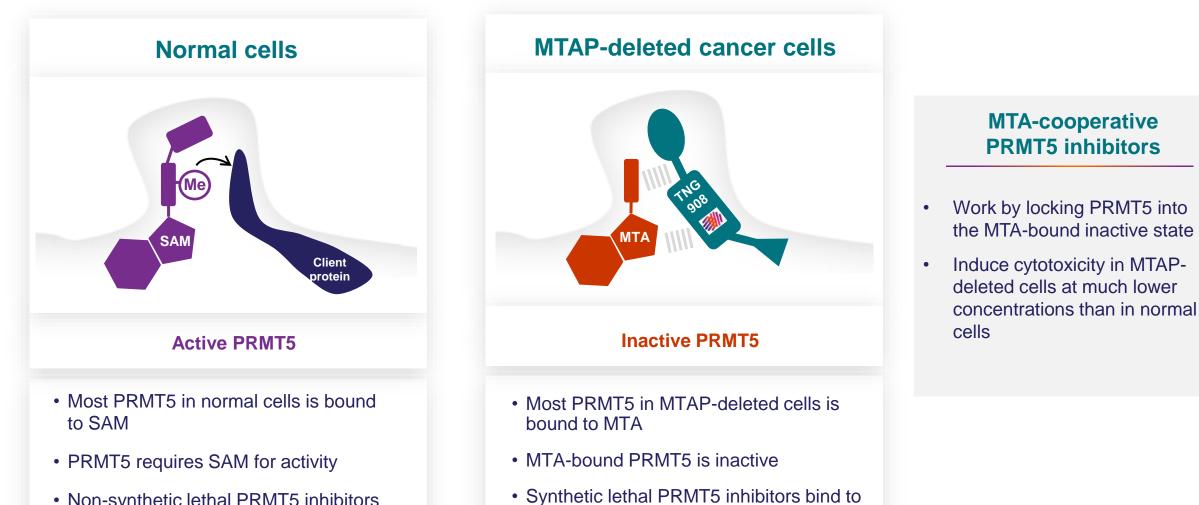
#### **PRMT5 and MTAP are a synthetic lethal pair**



Mavrakis et al., Science 2016; Kryukov et al., Science 2016



# TNG908 is an MTA-cooperative PRMT5 inhibitor that is synthetic lethal with MTAP deletion

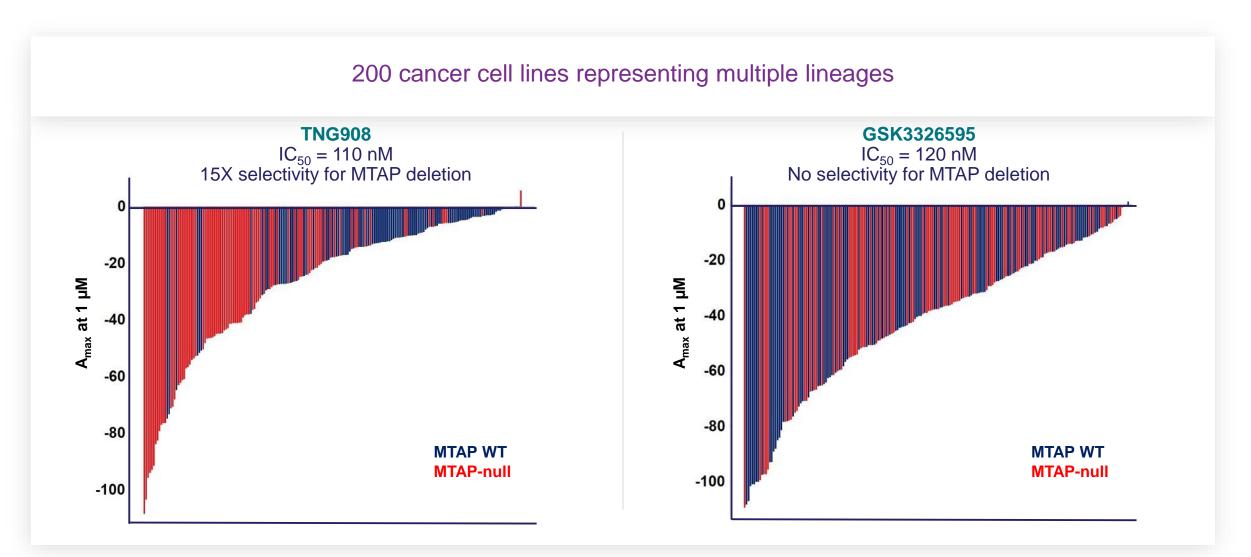


the PRMT5-MTA complex

 Non-synthetic lethal PRMT5 inhibitors suppress PRMT5 equally in normal and MTAP-del cells

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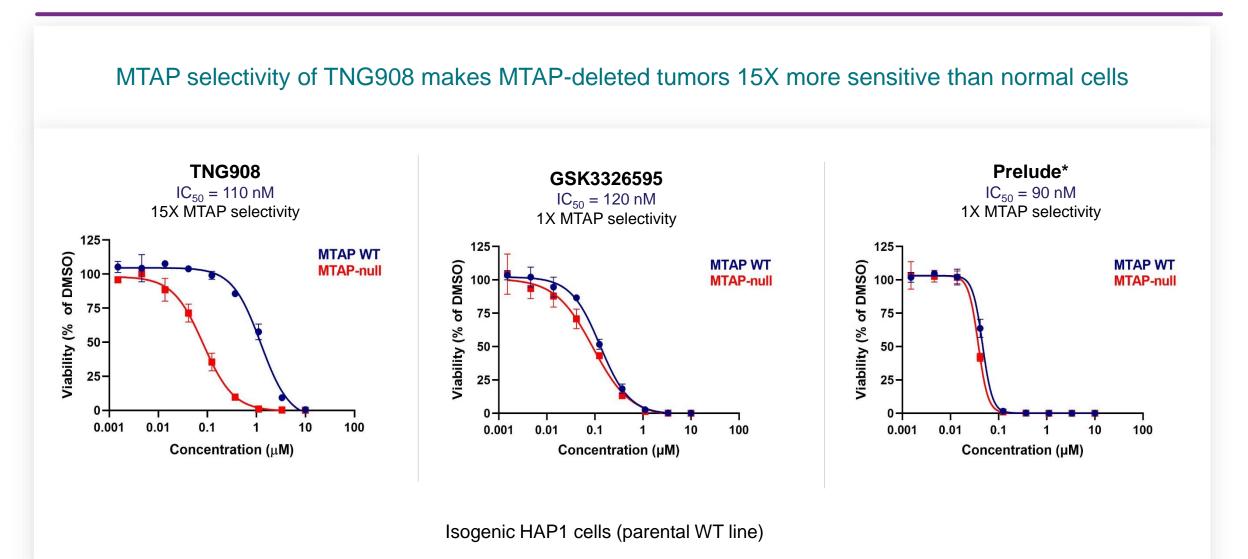
# MTA-cooperative PRMT5 inhibitors are highly selective for MTAP-null cancer cell lines





7-day viability assay All cell lines represented in both panels

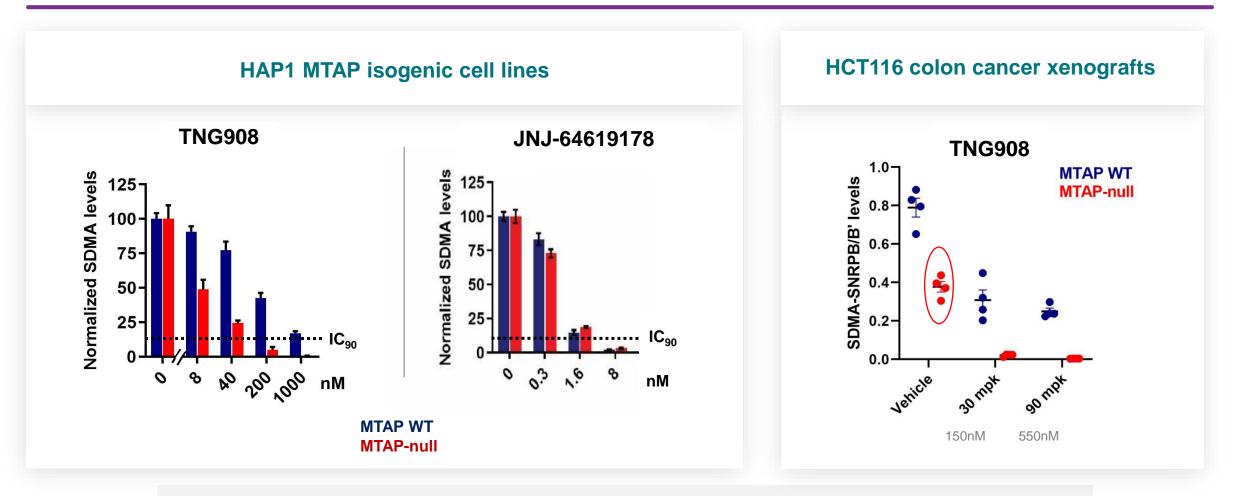
#### **TNG908 is 15X selective for MTAP-null cells**



\* Compound I from Patent WO2020168125, chemical structure of Prelude clinical molecules not disclosed



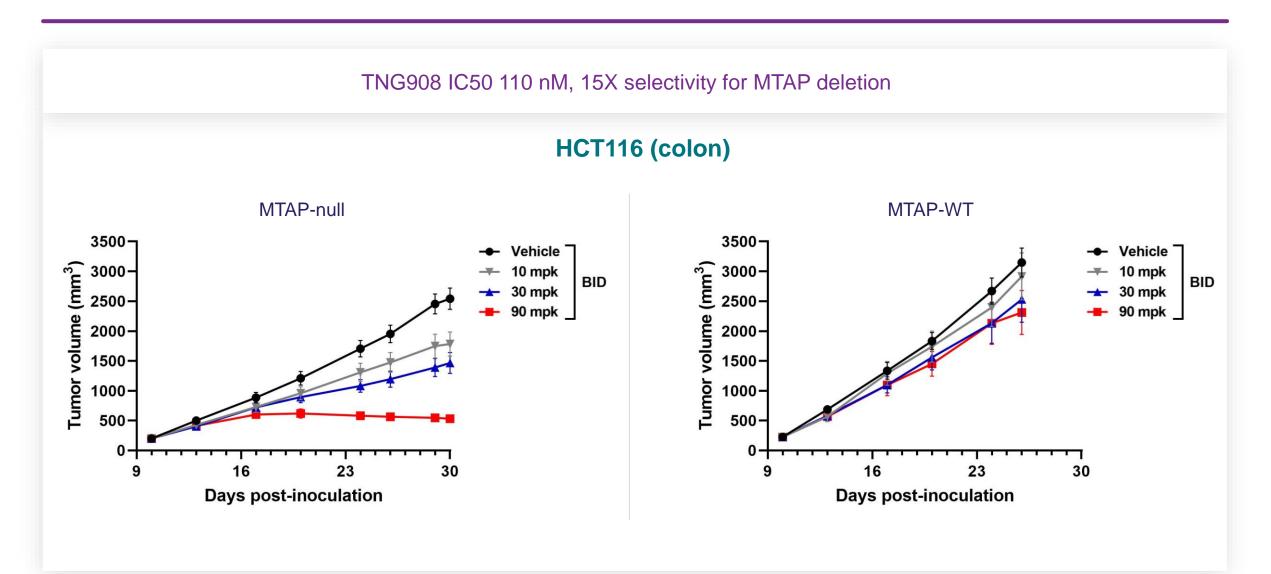
# **TNG908 PRMT5 inhibition is dose-dependent and MTAP-null selective**



- SDMA measures PRMT5-specific methylation
- SDMA suppression in MTAP-null and WT cells cannot be uncoupled by non-selective PRMT5 inhibitors

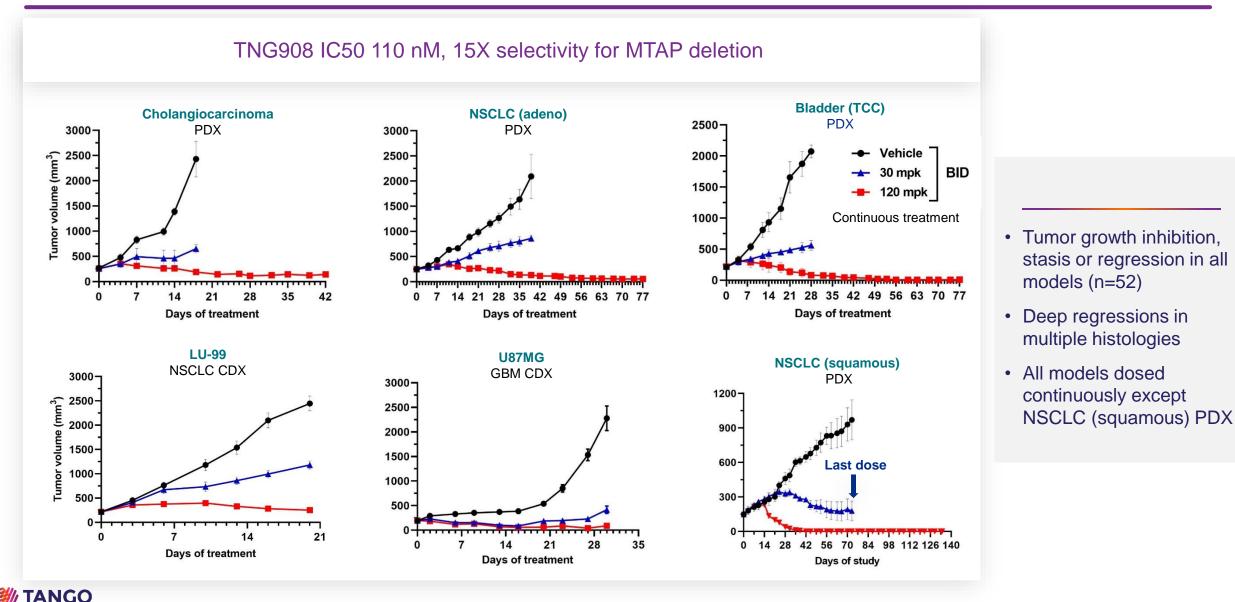


#### **TNG908** anti-tumor activity is dose and MTAP-deletion dependent



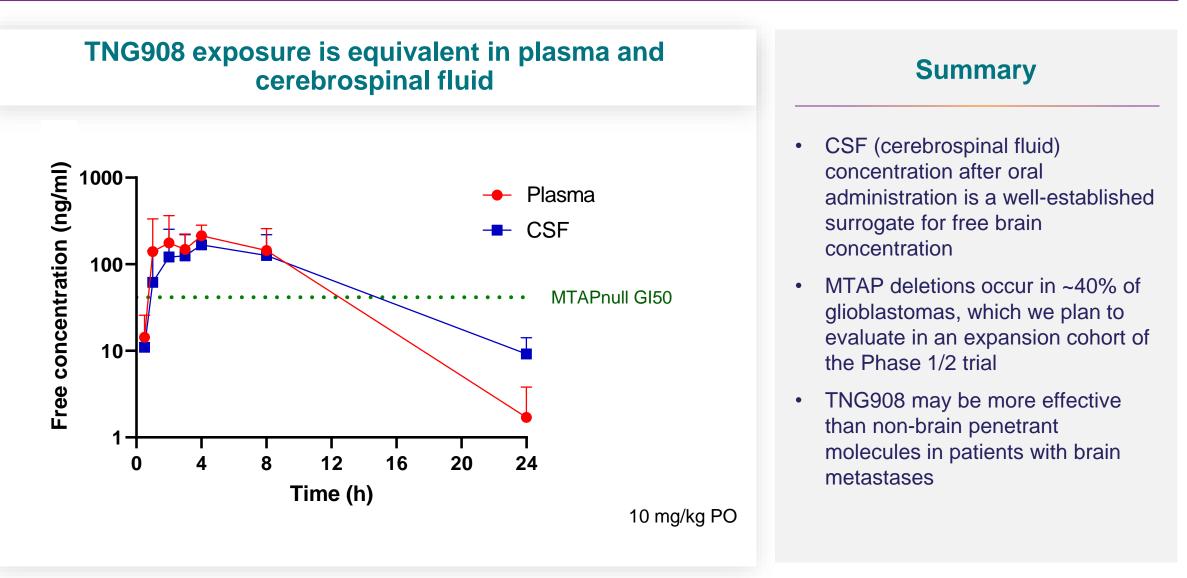


#### **TNG908 drives tumor regression in MTAP-null xenograft models** across lineages



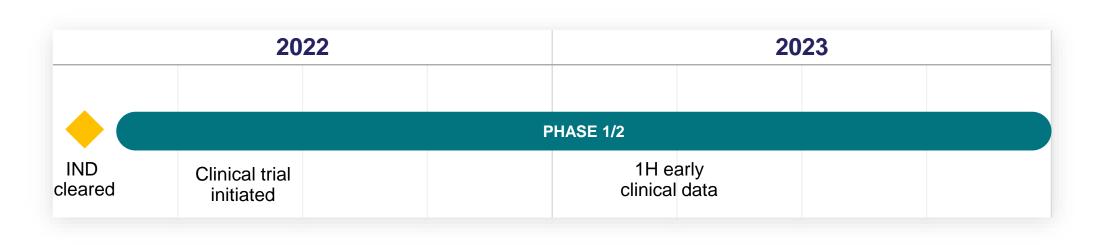
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#### **TNG908** is brain penetrant in non-human primates





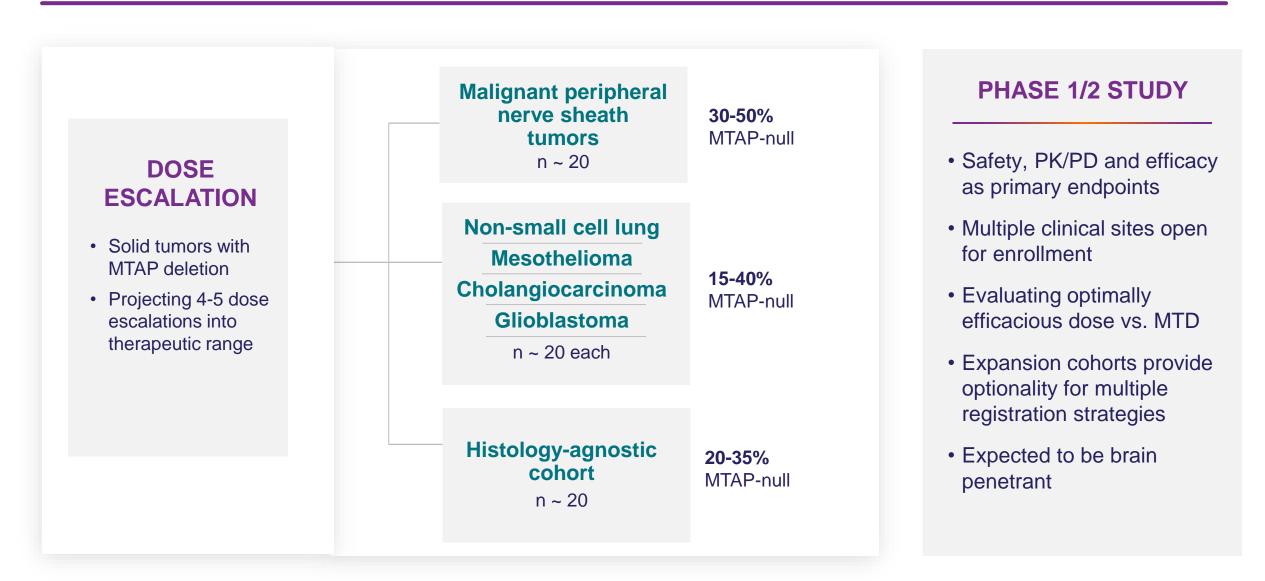
# TNG908 is a potentially first-in-class PRMT5 inhibitor that is synthetic lethal with MTAP deletion



#### **CLINICAL STAGE PROGRAM**

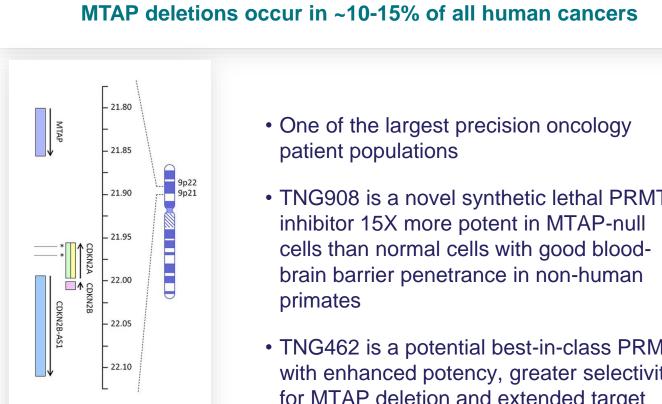
- Deep and durable regressions in cell-based and patient-derived xenograft models across histologies
- First patient dosed planned in Q2 2022, multiple clinical sites open for enrollment
- FDA Fast Track designation granted February 2022
- Large therapeutic index expected to allow selection of optimal efficacious dose below MTD
- Pursuing novel combinations with inhibitors that have complementary mechanism of action
- Filed composition of matter patent applications provide meaningful protection through at least 2041

#### Efficient trial design to evaluate efficacy in multiple indications





## Investing in our PRMT5 franchise with a nextGen molecule



The most common homozygous deletion in human cancer

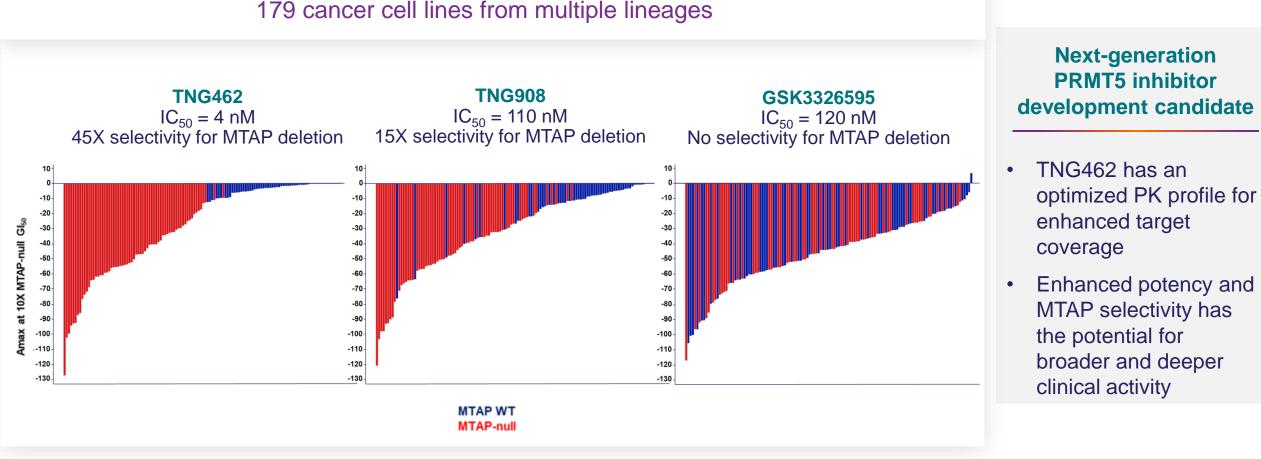
- TNG908 is a novel synthetic lethal PRMT5
- TNG462 is a potential best-in-class PRMT5 with enhanced potency, greater selectivity for MTAP deletion and extended target coverage

#### **A COMPREHENSIVE DEVELOPMENT PLAN**

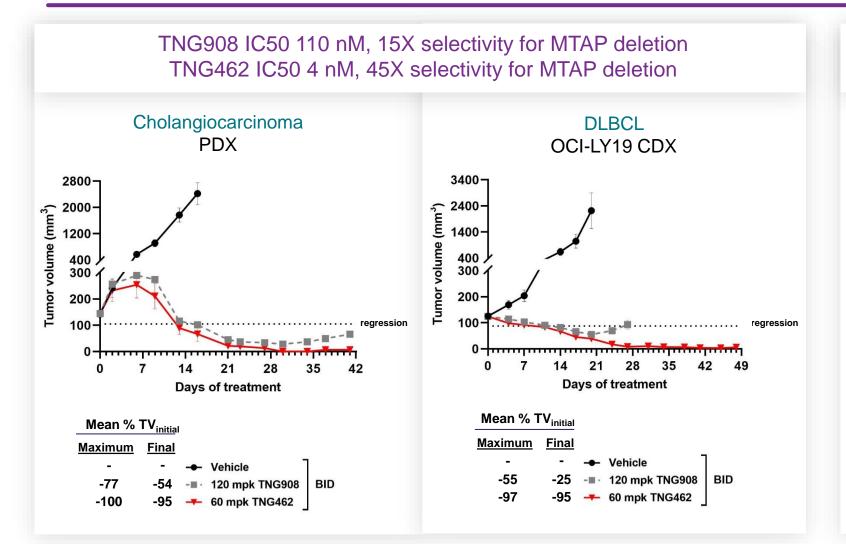
- Multiple combination trials based on strong preclinical data and rationale
- Extensive effort to define and • address resistance mechanisms in a range of genetic backgrounds
- Both TNG908 and TNG462 to be ٠ evaluated in clinical studies



## TNG462 is highly potent and 45X selective for MTAP deletion



#### **TNG462** is a potentially best-in-class PRMT5 inhibitor



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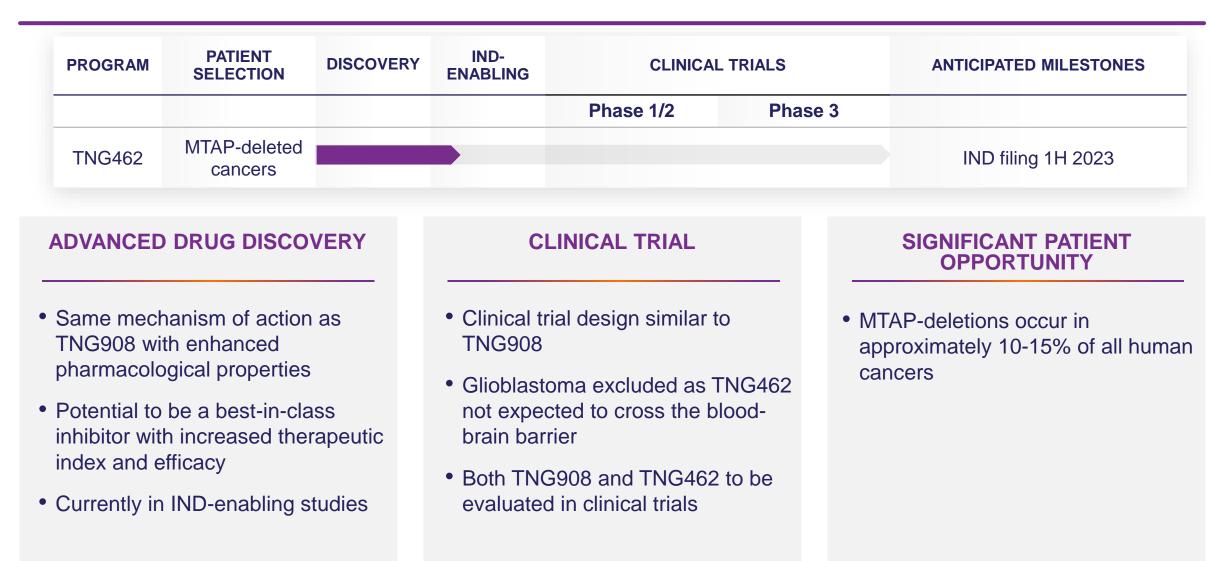
## TNG462 induces deep and durable regressions across histologies

TNG908	TNG462
16%	73%
48%	66%
55%	97%
80%	82%
77%	100%
	16% 48% 55% 80%

% tumor regression

5/6 mice with cholangiocarcinoma and 5/6 mice with DLBCL had complete regressions when treated with TNG462

## TNG462 IND filing planned 1H 2023

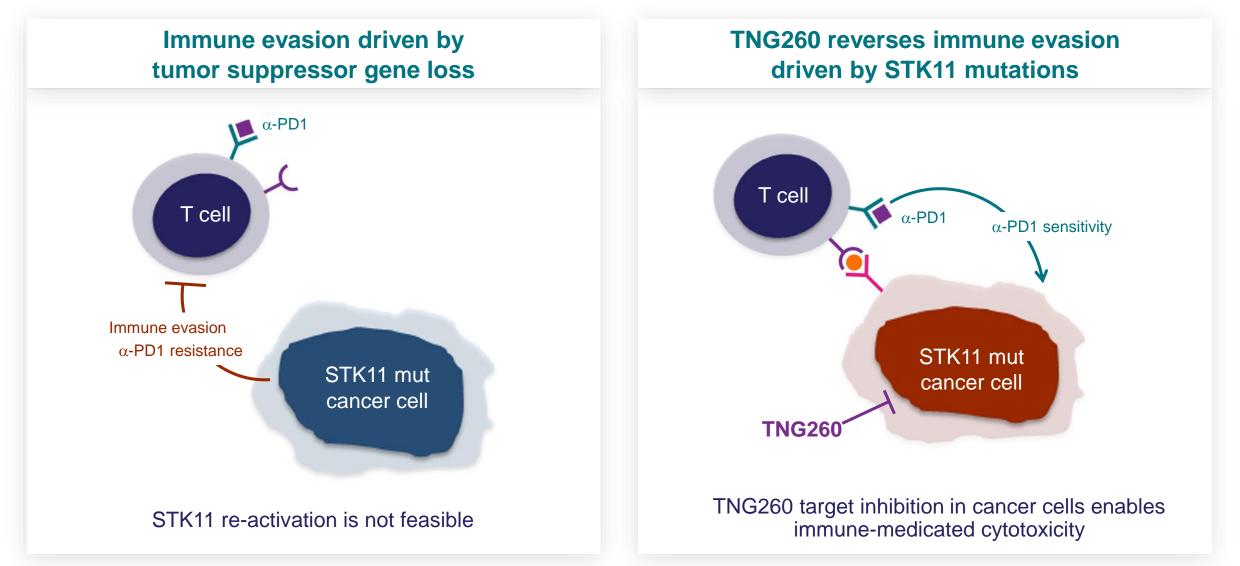




# Target 3 inhibition reverses immune evasion in STK11 mutant cancers



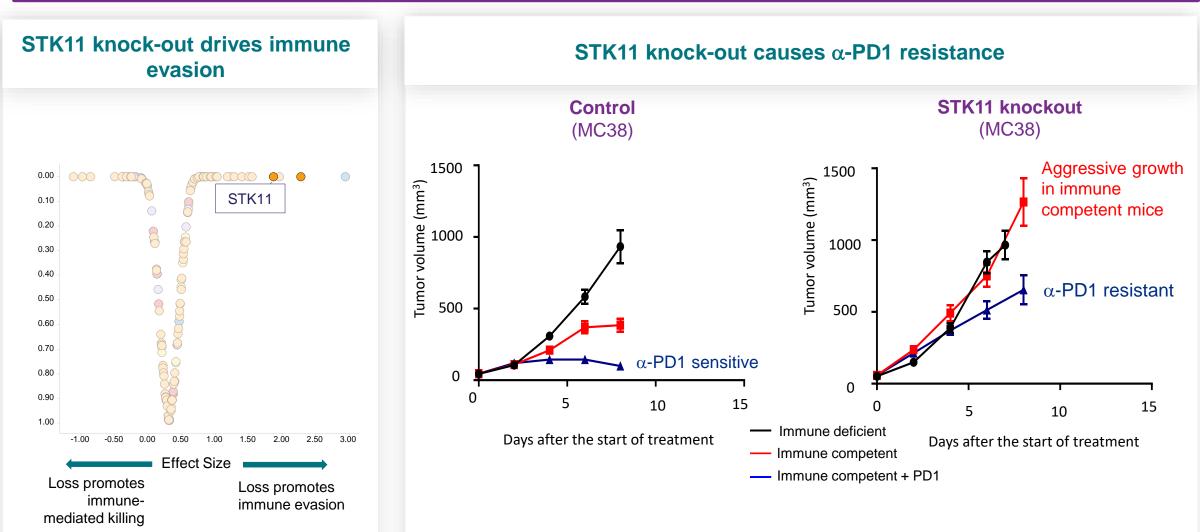
#### **TNG260 reverses immune evasion caused by STK11 loss-of**function mutations





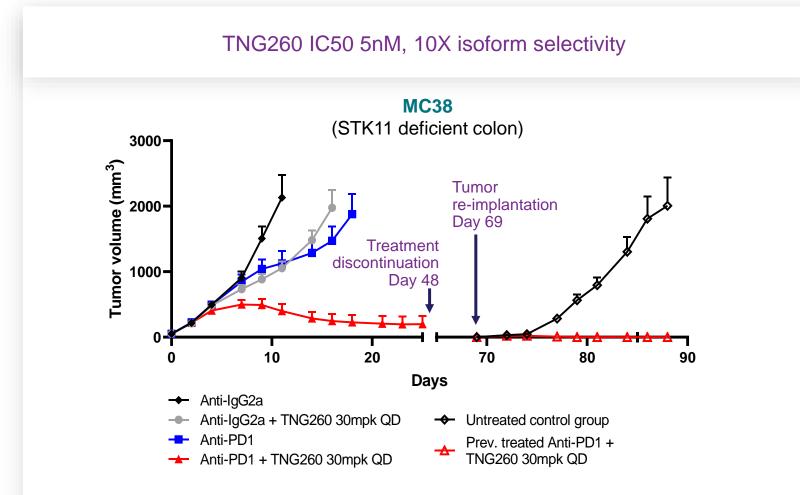
#### **STK11** loss-of-function mutations drive immune evasion

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Multiple peer-reviewed data sets support STK11 loss-of-function mutations are associated with clinical immune checkpoint inhibitor resistance

# TNG260 inhibition induces complete regression and establishes immune memory in an STK11 mutant tumors



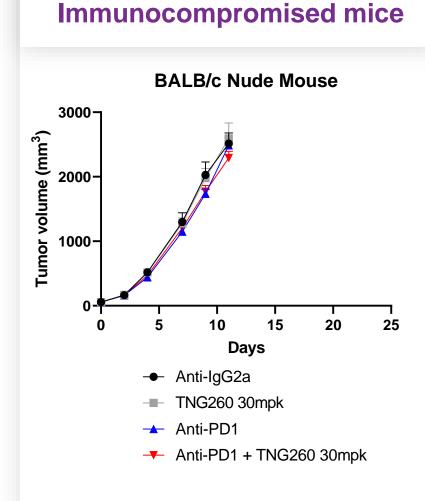
- 5/8 mice had complete tumor regression at day 34, treatment discontinued at day 48
- All mice with complete regression remained tumor free off treatment for 21 days
- 5/5 with complete regression rejected tumor reimplantation

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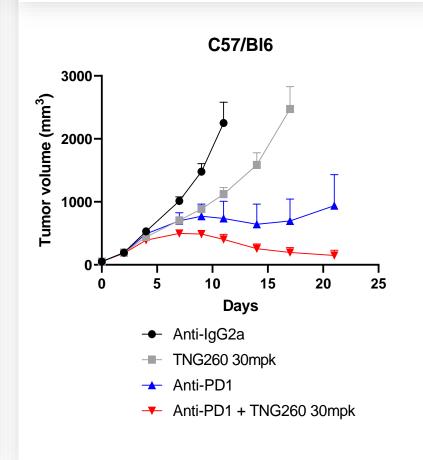
	<b>TNG260</b>						
•	TNG260 reverses immune evasion in STK11 mutant tumors						
•	TNG260 has strong <i>in vivo</i> efficacy in combination with anti-PD1 antibody						
•	TNG260 induces immune memory and renders treated mice resistant to tumor re-implantation						
•	Potent, highly selective molecule with good pharmacologic properties						

• Currently in IND-enabling studies

## Anti-tumor efficacy of TNG260 requires an intact immune system



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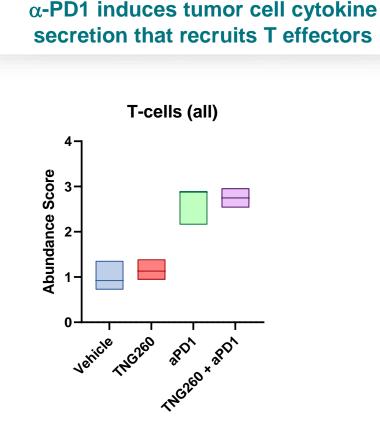


Immunocompetent mice

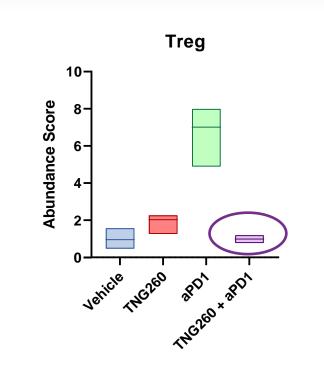
#### **TNG260**

- Development candidate selected 2Q 2022
- Anti-tumor effect of TNG260 not observed in mice lacking T cells

# TNG260 eliminates Treg infiltration caused by $\alpha$ -PD1 without reducing T effector influx



 CXCL9, 10 and 11 recruit T effector cells that mediate tumor cell killing and is increased by the combination TNG260 eliminates immune suppressive Treg infiltration caused by  $\alpha$ -PD1



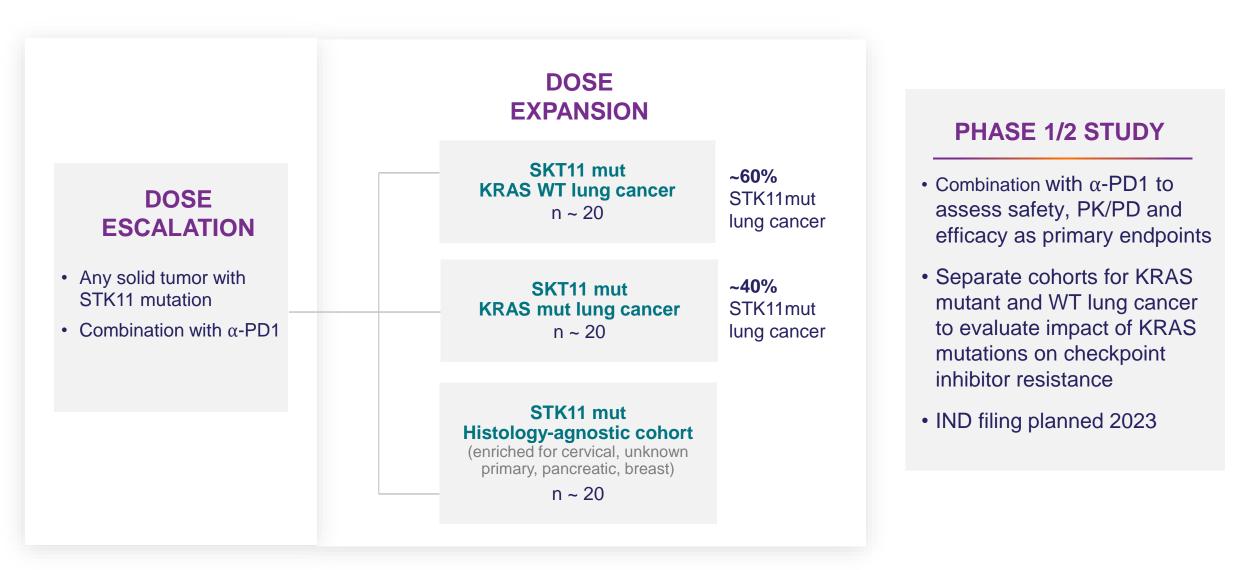
- α-PD1 markedly increases Treg infiltration
- CCL1 and CCL22 recruit Tregs that drive immune evasion and are reduced to baseline by the combination

#### **MECHANISM OF ACTION**

- TNG260 results in specific transcriptional changes in STK11 mutant cells
- TNG260 mediated transcriptional changes alter tumor secretion of specific cytokines
- Changes in cytokines secretion caused by TNG260 + α-PD1 change the T cell ratio in the tumor to strongly favor immune-mediated tumor cell killing

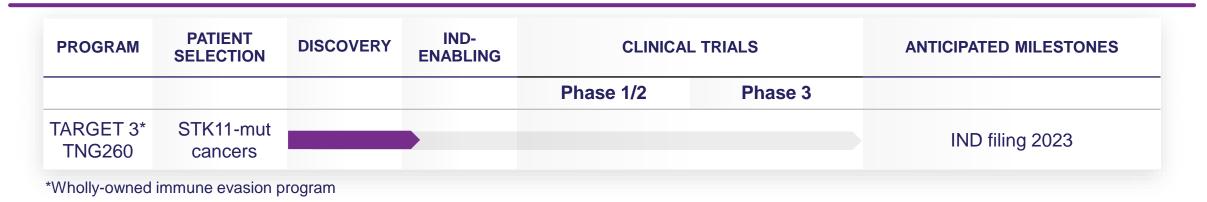


# Trial design to assess TNG260 inhibitor plus $\alpha$ -PD1 in multiple tumors types to evaluate safety, efficacy and the effect of KRAS mutation on outcome





## **TNG260 IND filing planned 2023**



#### **NOVEL TARGET**

- STK11 mutations are key drivers of immune evasion in lung cancers and occur in multiple other tumor types
- TNG260 inhibition reverses checkpoint inhibitor resistance in preclinical STK11-mutant models
- Evidence of immune memory induction after complete regression immunizes mice against tumor regrowth

#### **CLINICAL PLAN**

- Novel mechanism with strong *in vivo* efficacy
- Induction of immune memory that prevents tumor regrowth in responders
- In IND-enabling studies with planned filing 2023
- Phase 1/2 clinical study to evaluate efficacy in combination with α-PD1 in STK11 mutant cancers

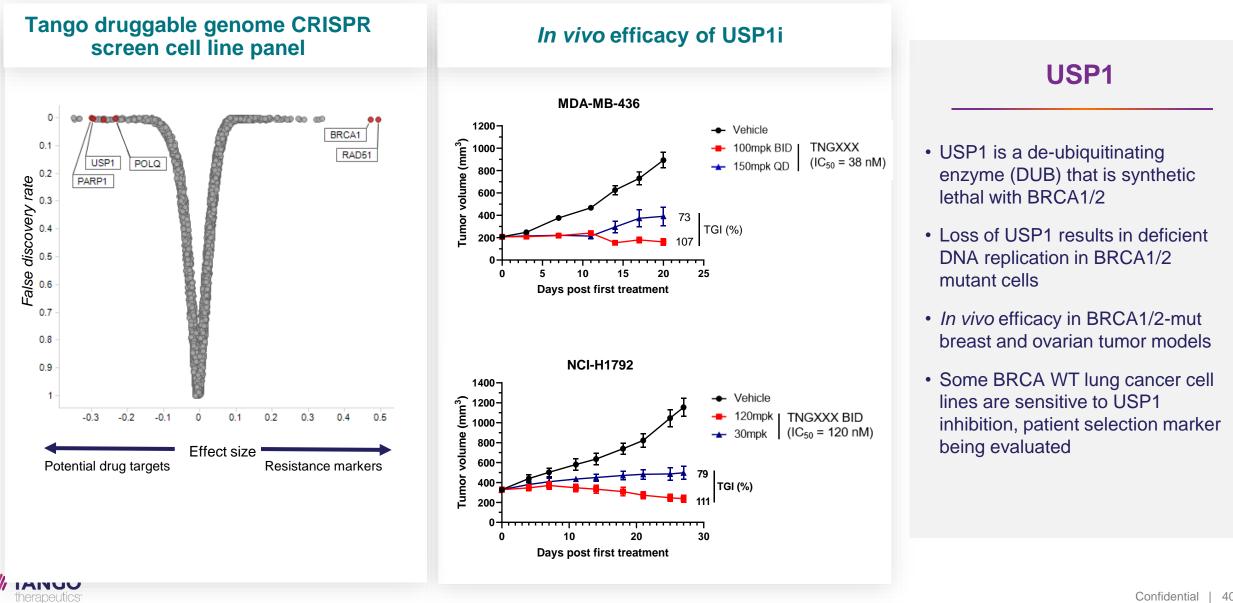
#### SIGNIFICANT PATIENT OPPORTUNITY

- STK11 mutations occur in ~15% NSCLC, 15% cervical, 10% carcinoma of unknown primary, 5% breast and 3% pancreatic cancers
- STK11 mutations are associated with clinical checkpoint inhibitor resistance
- STK11 mutations among the first genetic patient selection for an immuno-oncology clinical trial

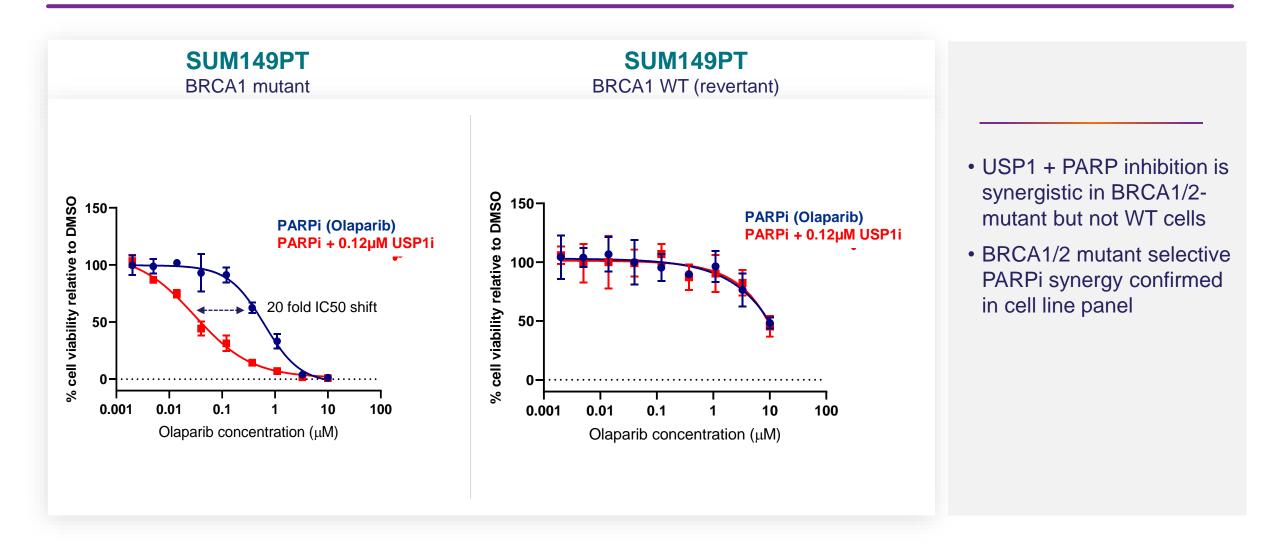
# **USP1** inhibition in BRCA1/2 mutant cancers



#### **USP1** and BRCA1/2 are a synthetic lethal pair

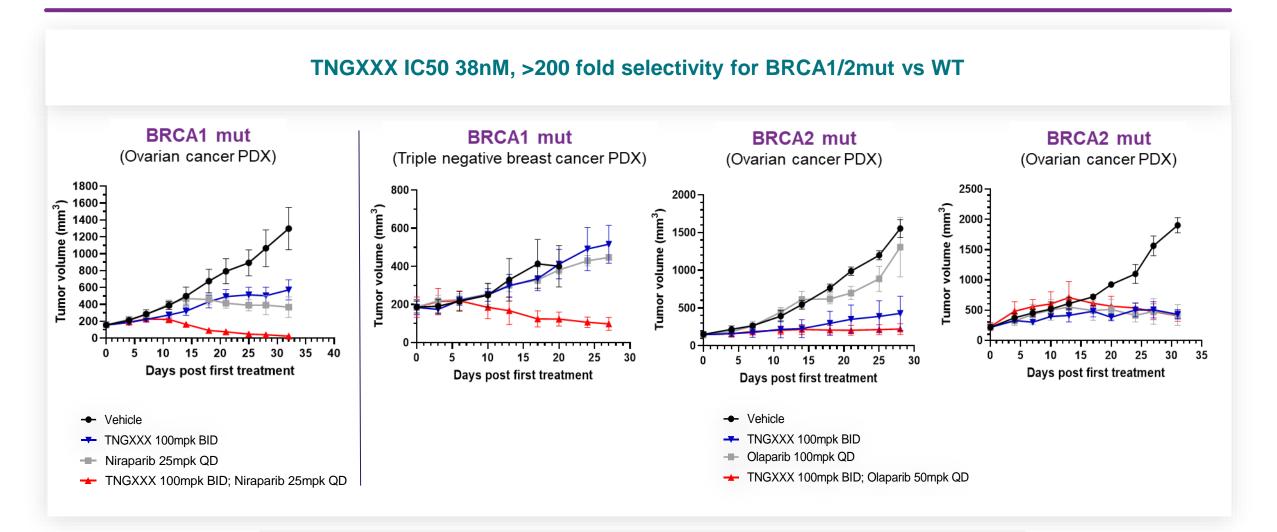


### **USP1 + PARP inhibition is synergistic in BRCA1/2 mutant cells**





### Advanced lead has single agent and PARPi combination activity



Single agent and combination activity in PARPi sensitive and resistant models



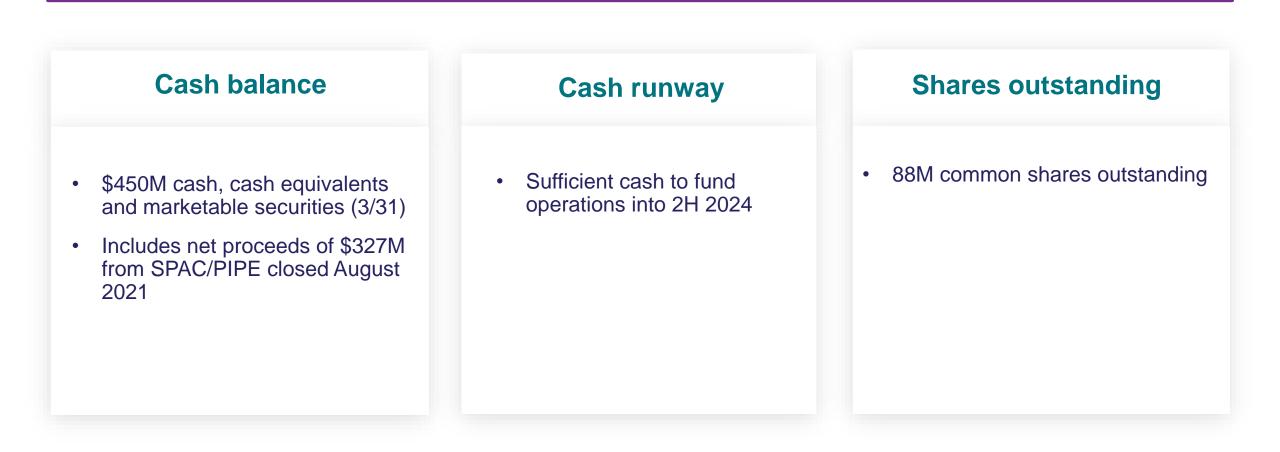
#### **USP1 development candidate in 2H 2022**



# FINANCIAL HIGHLIGHTS AND MILESTONES



## Q1 2022 financial highlights (Nasdaq: TNGX)





#### Sufficient cash to achieve multiple projected key milestones

2022	2023
FY	FY
<ul> <li>Initiate TNG908 first-in-human clinical trial in 2Q</li> <li>Development candidate for nextGen PRMT5 TNG462 in 2Q</li> <li>Development candidate for Target 3 in 2Q</li> <li>Development candidate for USP1 in 2H</li> </ul>	<ul> <li>Preliminary safety and efficacy data on TNG908 in 1H</li> <li>IND filing for nextGen PRMT5 TNG462 in 1H</li> <li>IND filing for Target 3</li> <li>IND filing for USP1</li> </ul>



