



# TG Therapeutics

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**NASDAQ: TGTX**

May 2014

# Forward Looking Safe Harbor Statement



*This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are often, but not always, made through the use of words or phrases such as “anticipates”, “expects”, “plans”, “believes”, “intends”, and similar words or phrases. Such statements involve risks and uncertainties that could cause TG Therapeutics’ actual results to differ materially from the anticipated results and expectations expressed in these forward-looking statements. These statements are only predictions based on current information and expectations and involve a number of risks and uncertainties. Actual events or results may differ materially from those projected in any of such statements due to various factors, including the risks and uncertainties inherent in clinical trials, drug development, and commercialization. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement and TG Therapeutics undertakes no obligation to update these statements, except as required by law.*

- Emerging biopharmaceutical company focused on cancer & autoimmune-related diseases
- Developing two drugs for B-cell cancers – CLL and NHL
  - **TG-1101** – Novel Glycoengineered, Anti-CD20 monoclonal antibody
    - Same class as Rituxan<sup>®</sup>, which has ~\$7BB WW Sales
    - Enhanced ADCC profile for increased potency similar to Gazyva<sup>®</sup> (GA101)
    - Single agent activity demonstrated in CLL and NHL in Phase 1/2 studies
  - **TGR-1202** – Novel PI3K $\delta$  inhibitor
    - Same class as Idelalisib and IPI-145
    - Currently in Phase 1 dose escalation study & combination study w/ TG-1101
    - Potential for best in class attributes

# Treatment of B-cell cancers

## Evolving market dynamics



**Goal...non-chemotherapy-based combinations, with:**

Glyco-engineered CD20s	BTK inhibitors	Delta inhibitors	Bcl-2 inhibitors
Gazyva	Ibrutinib	Idelalisib	Abt-199
TG-1101	CC-292	IPI-145	
	ONO-4059	TGR-1202	

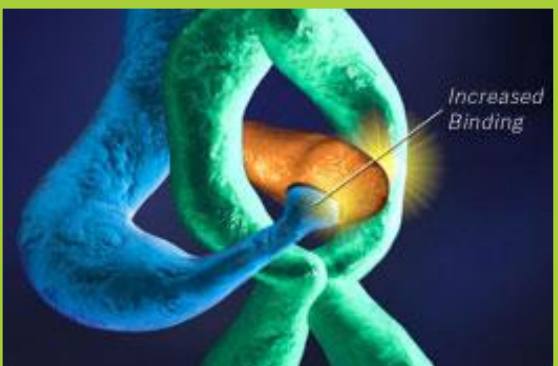
***Treatment of B-cell malignancies could exceed \$10-\$15B***

# TG-1101, a Novel Glycoengineered Anti-CD20

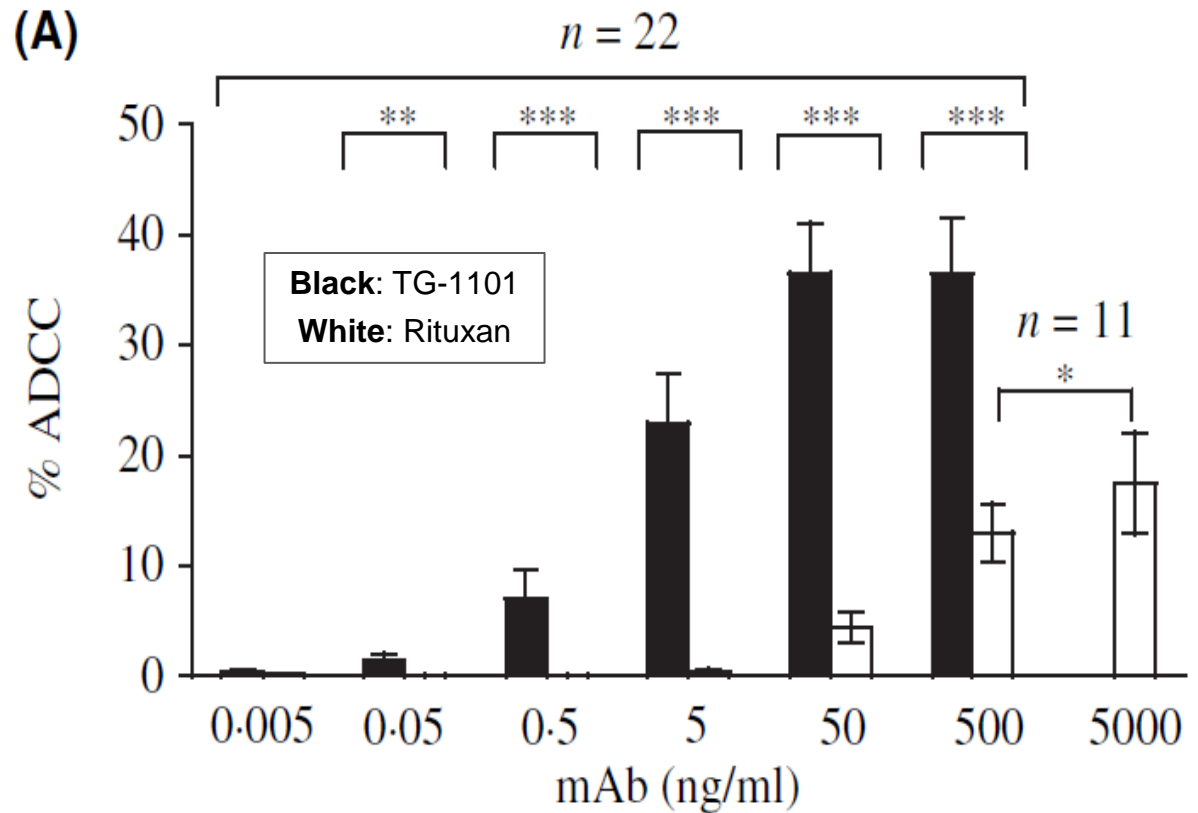


- TG-1101 Profile:
  - Novel protein sequence
  - Targets distinct epitope on CD20
  - Glycoengineered for enhanced activity
    - 50-100x the ADCC effects of RTX
    - comparable to GA101 in indirect comparisons
  - Demonstrated Single Agent activity in relapsed/refractory NHL & CLL

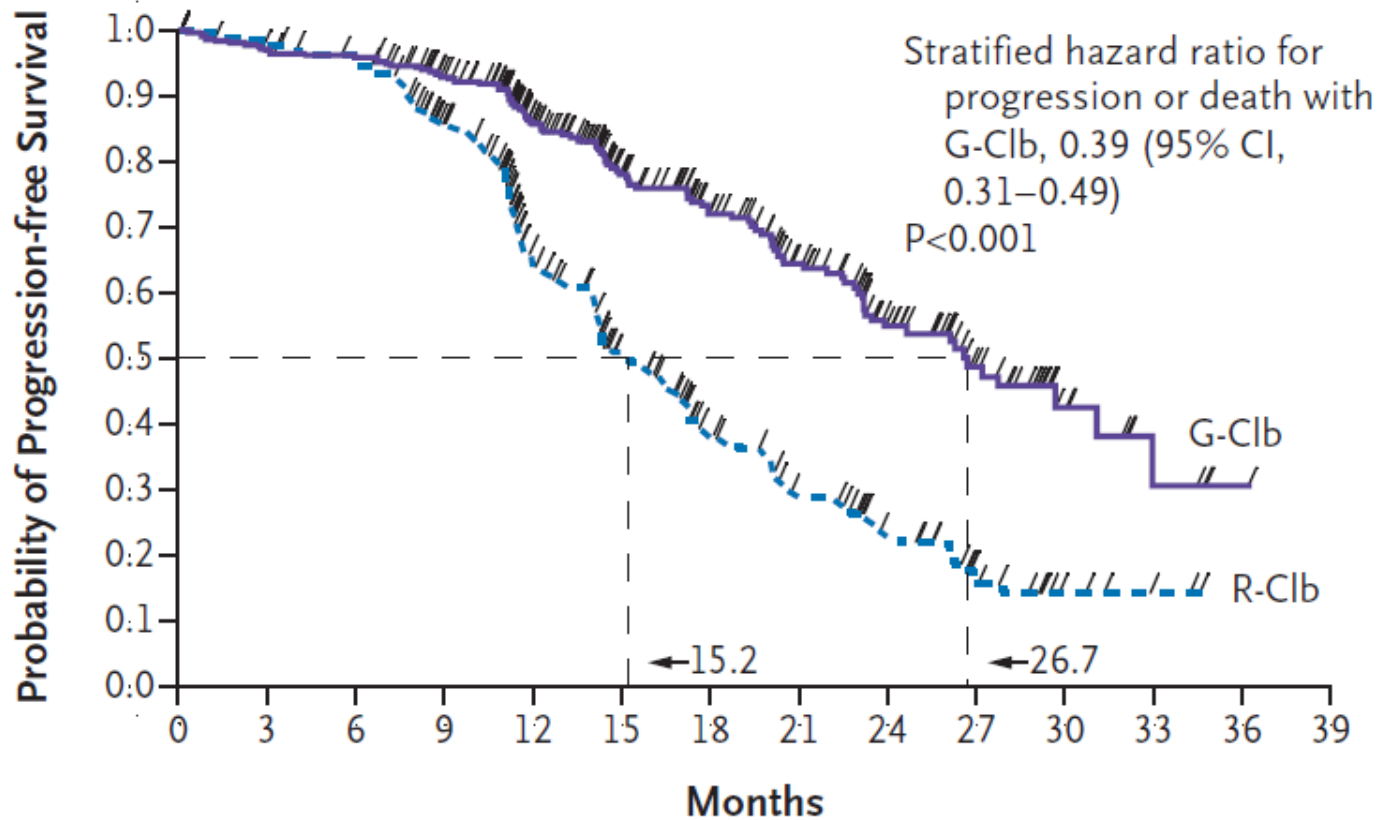
# What is Glycoengineering?



## TG-1101 vs. Rituxan ADCC Induction in CLL Patient Donor Cell Lines



## Ph III: GA101+Clb vs. RTX+Clb

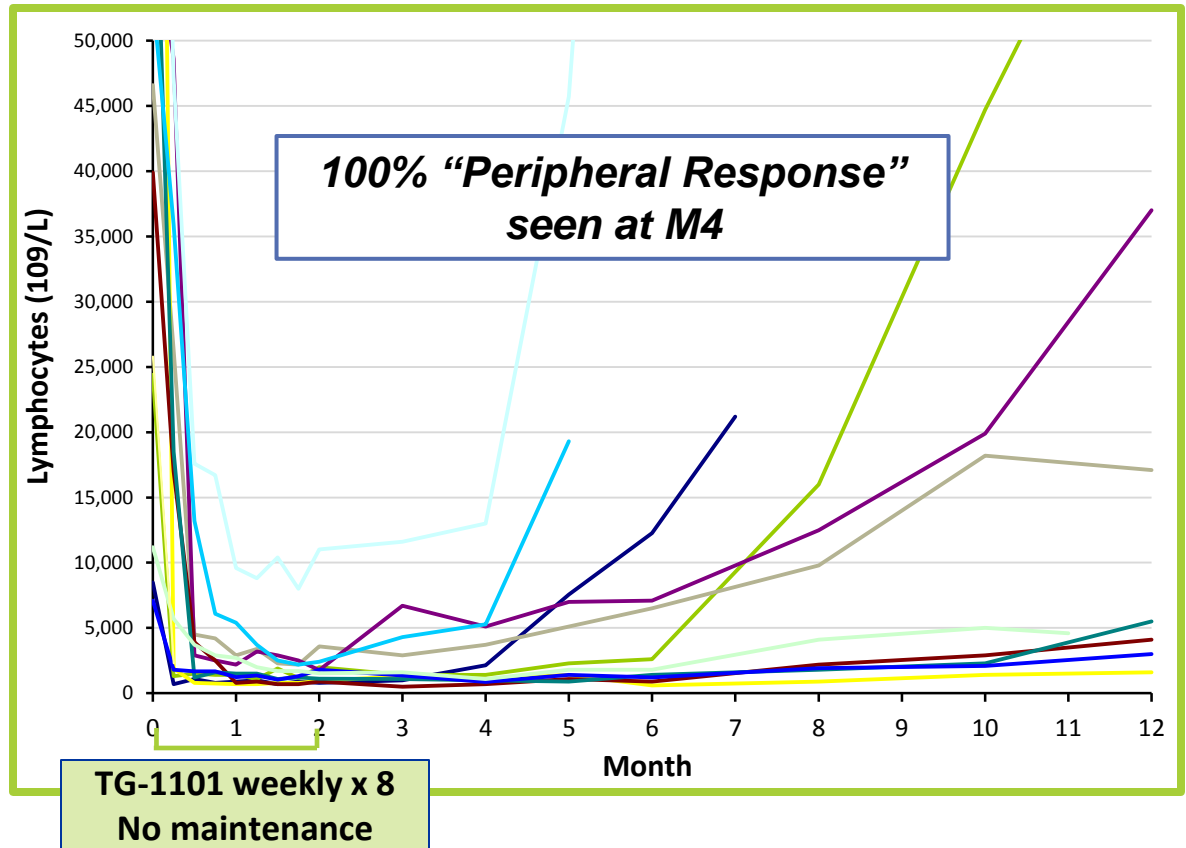


# Demonstrated single agent activity:

## TG-1101 Phase 1b Efficacy Results Rel/Ref CLL



	Part II
Patients	12
Evaluable	11*
CR	0
PR at M4	7 (63.6%)
SD at M4	4
PD at M4	0
PR at M6	5 (45.5%)



- ▶ Overall response rate of **13%** (n=88) was observed in a rituximab single agent control arm in previously treated CLL/SLL patients.<sup>1</sup>

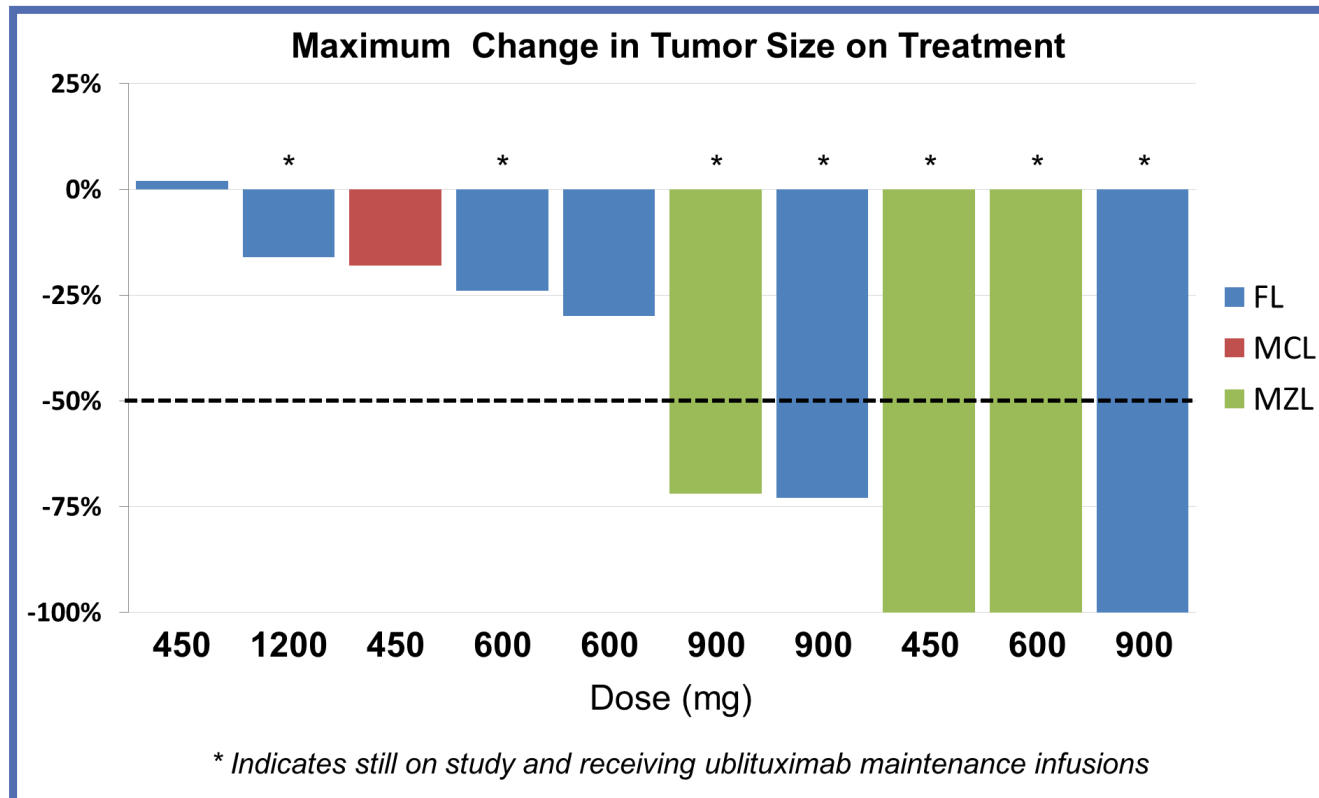


# Demonstrated single agent activity:

## TG-1101 Phase 1 Efficacy Results in Rel/Ref NHL



- 10/12 patients were evaluable for efficacy (2 patients were too early for response assessment)
- 5 patients achieved an objective response (3 CRs, 2 PRs)
- **Data to be updated at ASCO 2014**



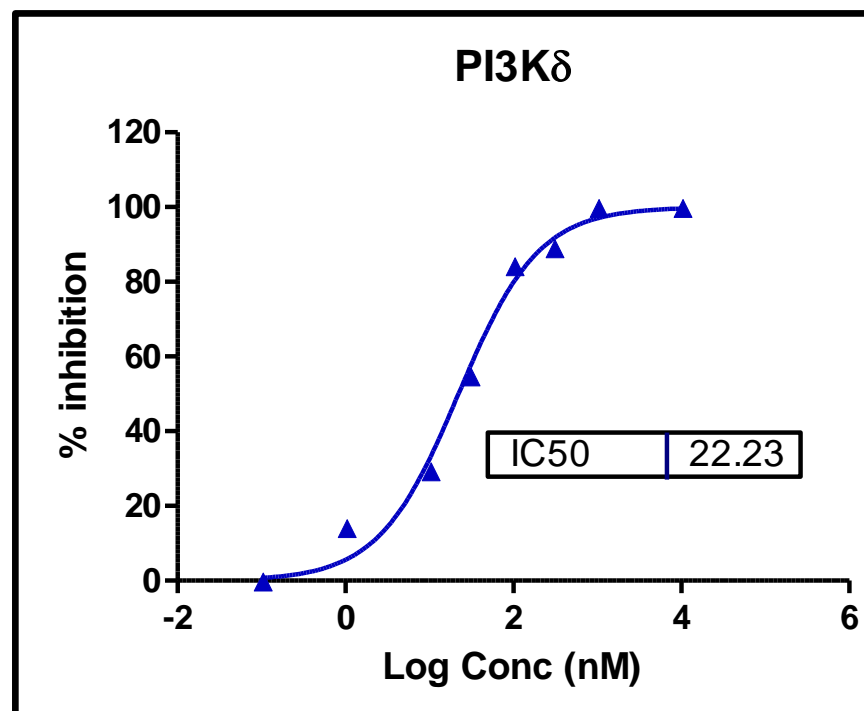
**90% of evaluable patients had a reduction in target lesion**

# TGR-1202, a novel PI3k-Delta inhibitor with best in class attributes



- TGR-1202 Profile:
  - Highly selective for Delta with low nanomolar potency
  - Pre-clinical activity profile similar to Idelalisib
  - Once per day dosing
  - Prolonged half-life maintains target exposure over 24hour period
  - No drug related hepatotoxicity seen to date
  - Low incidence of GI toxicity and neutropenia, well-suited for multi-drug combinations

# Enzyme Specificity

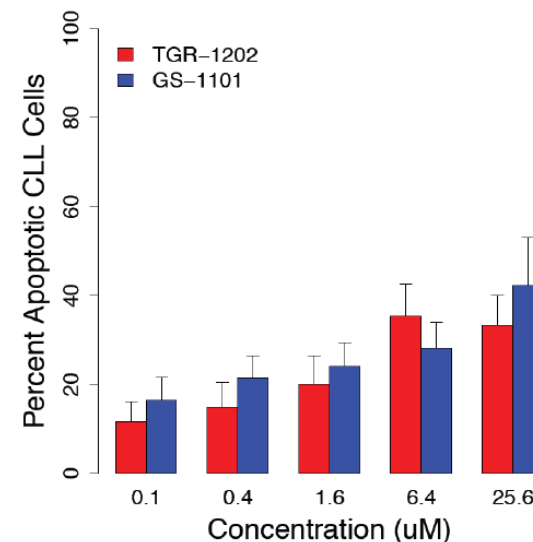
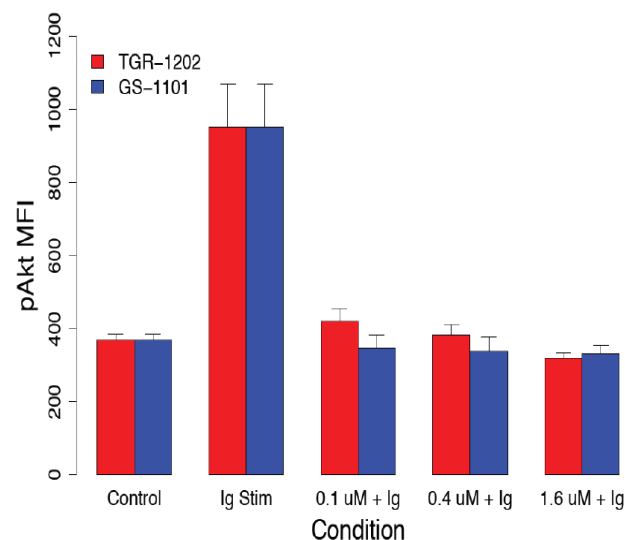
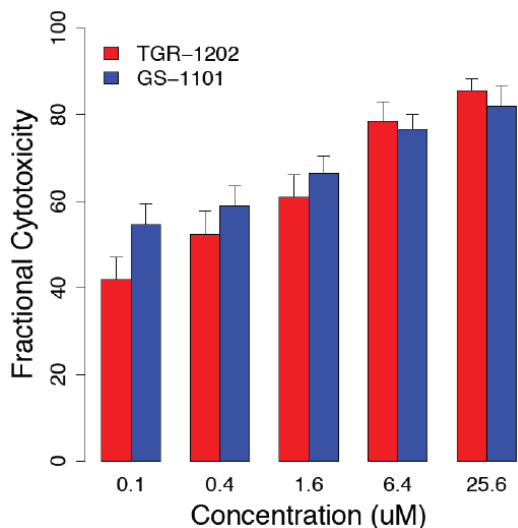


Fold-selectivity				
Isoform	$\alpha$	$\beta$	$\gamma$	$\delta$
TGR-1202	>10000	>50	>48	1
<sup>1</sup> Idelalisib	>300	>200	>40	1
<sup>2</sup> IPI-145	>640	>34	>11	1

# TGR-1202 vs. Idelalisib



- Blinded *in vitro* study conducted at Duke University comparing TGR-1202 and Idelalisib in CLL patient cells (n=7)



Equivalent dose dependent cytotoxicity

Equivalent suppression of pAKT

Equivalent dose dependent induction of apoptosis

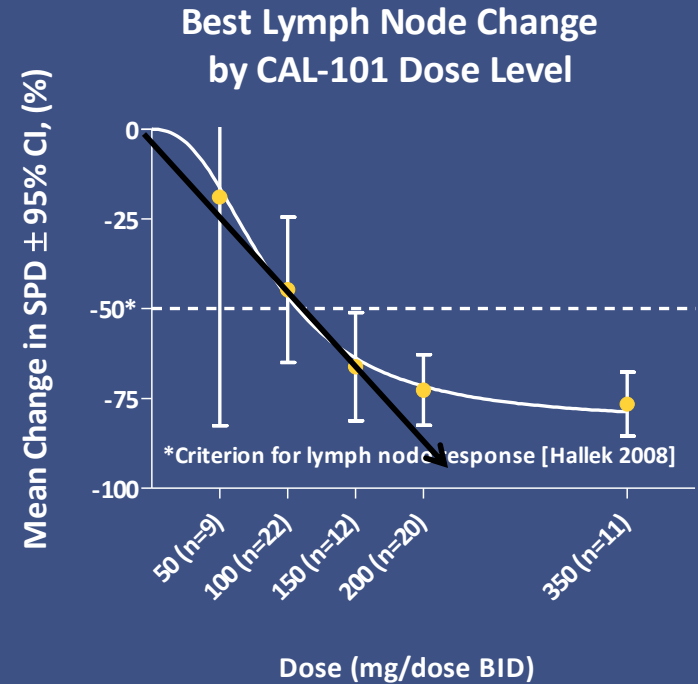
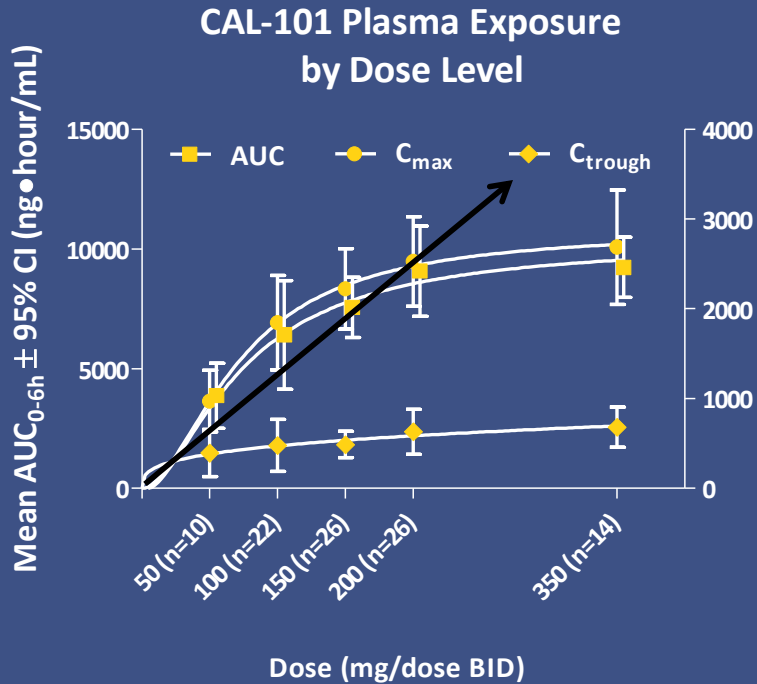
# Room for Improvement



	Idelalisib	IPI-145
ORR - Rel/Ref CLL	72% (CR=0%)	47% (CR=2%)
CLL Toxicity Profile	fatigue, diarrhea, pyrexia, cough, back pain, rash AST/ALT elevation	neutropenia (majority Gr. 3 or 4), pyrexia, cough, rash, fatigue, diarrhea, AST/ALT elevation
ORR-Rel/Ref NHL	58% (CR=0%)	68% (CR=16%)
NHL Toxicity Profile	ALT/AST elevation (25% ≥Gr. 3), neutropenia (25% ≥Gr. 3) fatigue, diarrhea, nausea, rash	ALT/AST increase (majority Gr. 3), pyrexia, fatigue, cough, neutropenia (majority Gr. 3)

Horwitz et al; Patel et al; Benson et al, Brown et al ASCO 2013, Flinn et al, ASH 2013

# Pharmacokinetic and Efficacy Data Illustrate Dosing Limitations with Idelalisib

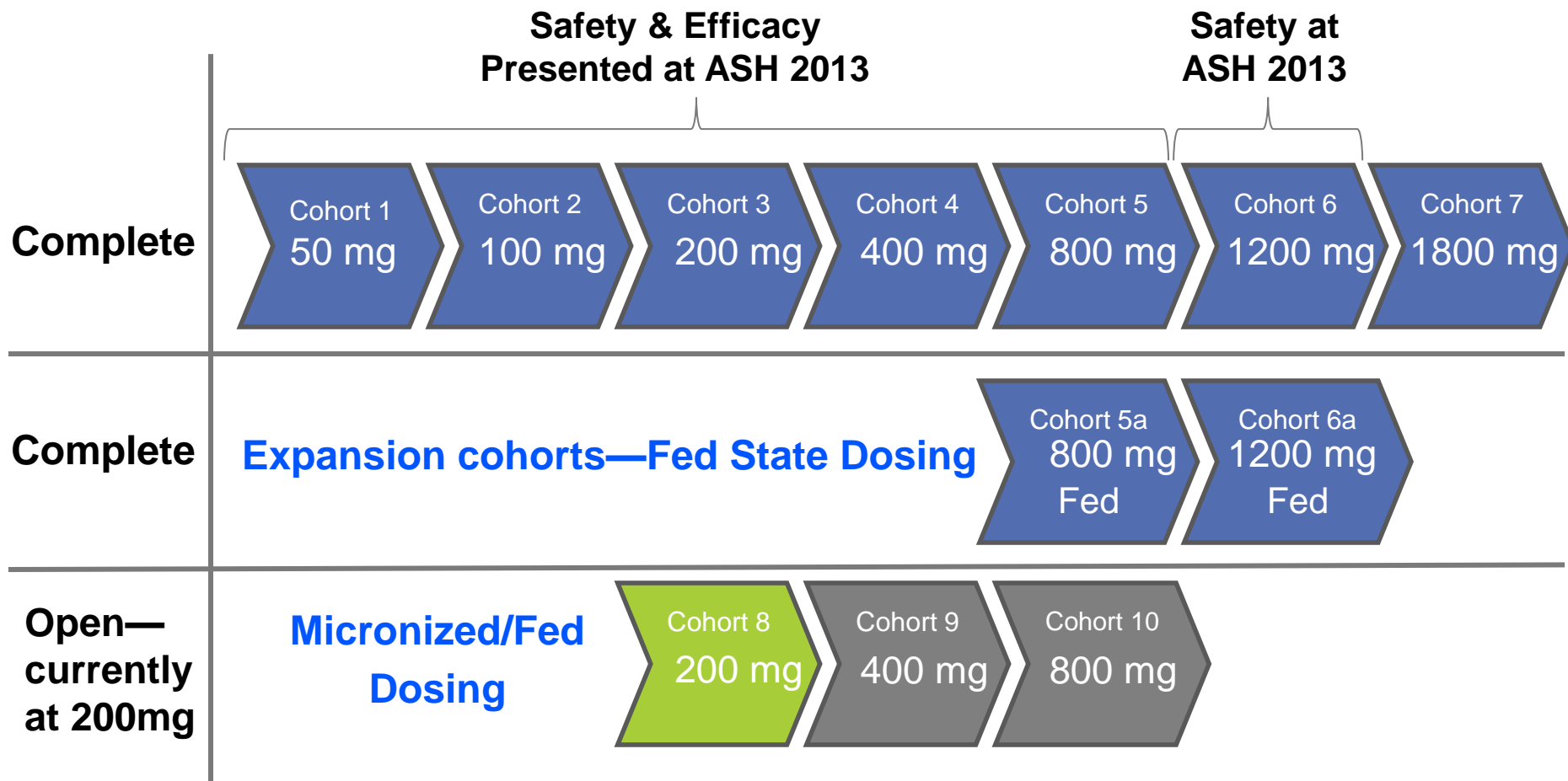


Dose-exposure relationships indicate little exposure gain at doses of >150 mg BID

Dose-response relationship suggests that at doses ≥150 mg BID, mean nodal shrinkage is >50% in most patients

# Phase I Study of TGR-1202

## Enrollment and Progress Update



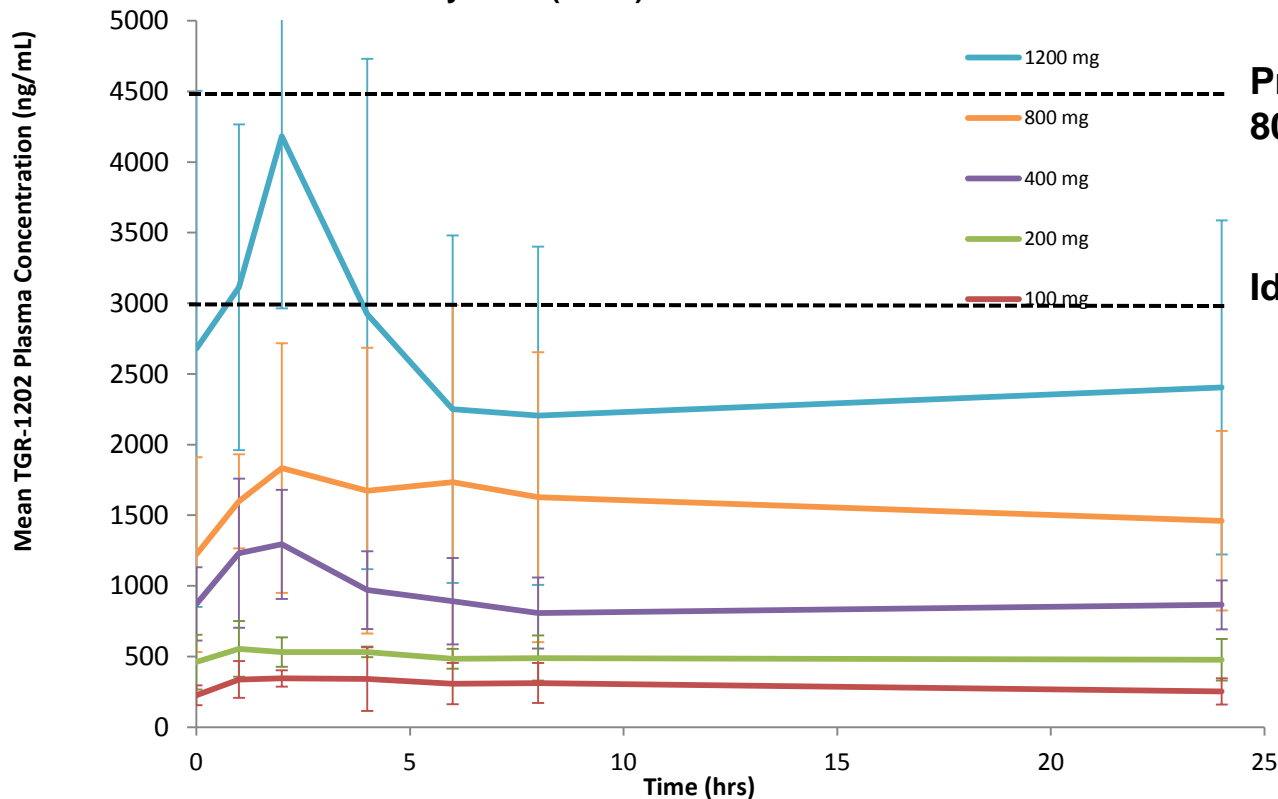
- **Micronized formulation & fed-state dosing projected to provide 3-4 fold increase in exposure levels**

# TG 1202-101: ASH Poster Highlights



- **Poster Presented at ASH, December 2013**
- Well tolerated to date – no unexpected safety issues
- PK data supports once-daily dosing

Steady State (C2D1) 24-hr Plasma Concentrations

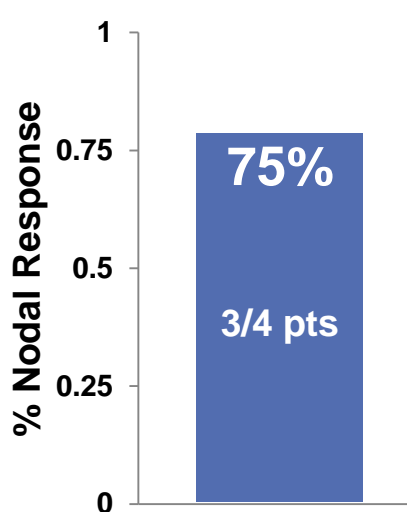


Projected trough levels for 600mg-800mg QD micronized fed

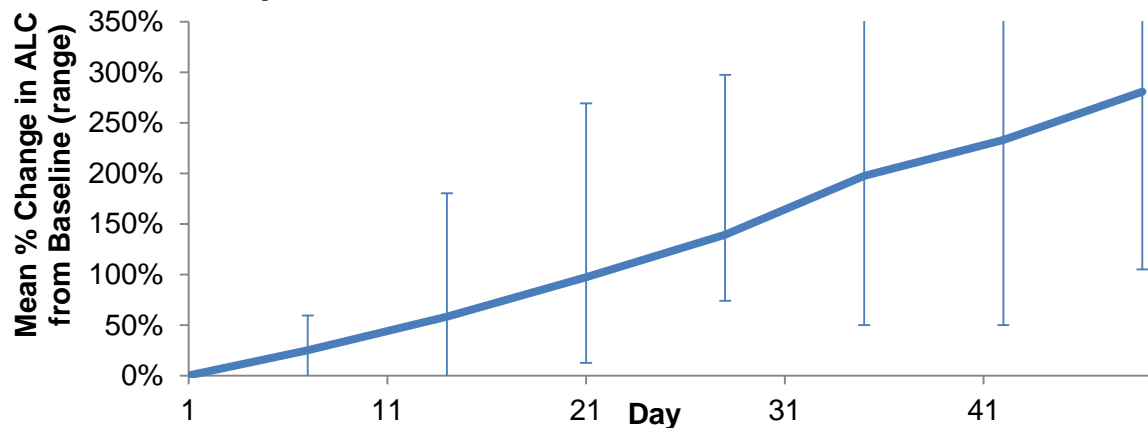
Idelalisib Cmax at 150mg BID



# TGR-1202: CLL Pts at 800 mg



Nodal Responses and Marked Lymphocytosis in CLL patients treated with TGR-1202



- 5 CLL patients enrolled at 800 mg (one off study within 1 Cycle due to Richter's transformation)
- Of the 4 remaining CLL patients, all had a nodal reduction
  - 3 nodal PR (> 50% LN reduction)
  - 1 nodal reduction of 41% by CT scan at Week 8

# TGR-1202: Preliminary Findings



- TGR-1202 is well tolerated with promising signs of clinical activity in the higher dosing cohorts
  - No dose-related trends in safety observed, and notably **no drug-related hepatotoxicity observed to date**
- TGR-1202 displays linear kinetics through 1200mg dose.
- **Steady-state half life >50 hours, supports once-daily (QD) oral administration of TGR-1202**
- Clinical activity observed at higher dose levels (>400 mg)
- No MTD observed up through the 1800 mg QD dose
  - Micronized formulation & fed-state dosing change provides **increased exposure of ~3-4 fold over prior formulation/dosing** – restarting dose escalation at 200mg

# Phase II Study of TG-1101 + Ibrutinib

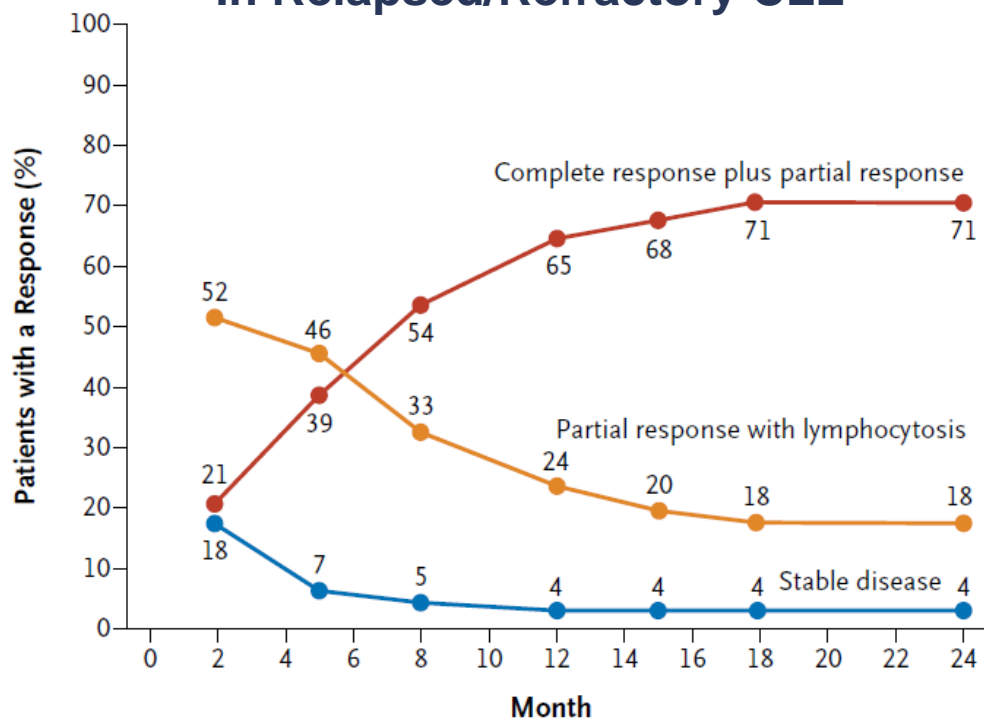


- Single arm study for patients with relapsed or refractory MCL and CLL per ibrutinib label
- Ibrutinib administered daily until off study, TG-1101 administered through Cycle 6 only
- Study Chairs: Jeff Sharman, MD (CLL) and Owen A. O'Connor, MD, PhD (MCL)

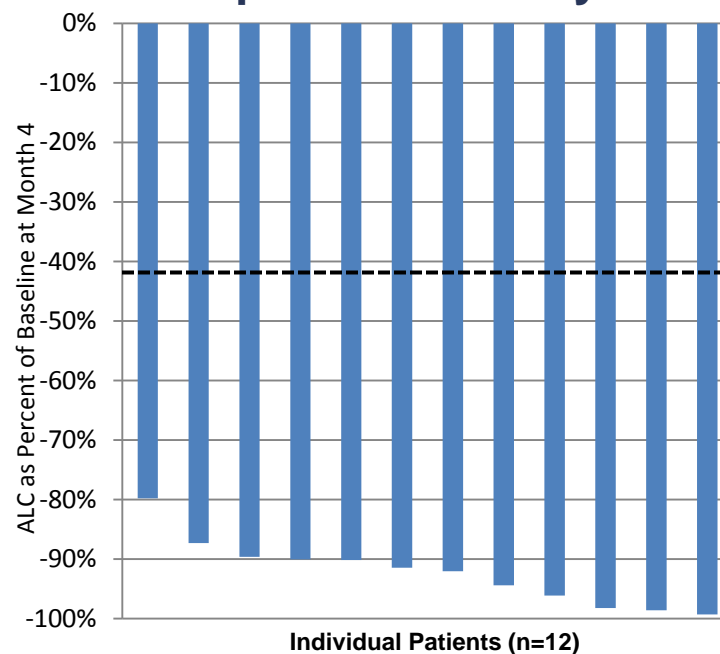
# Scientific Rationale: TG-1101 + Ibrutinib for CLL



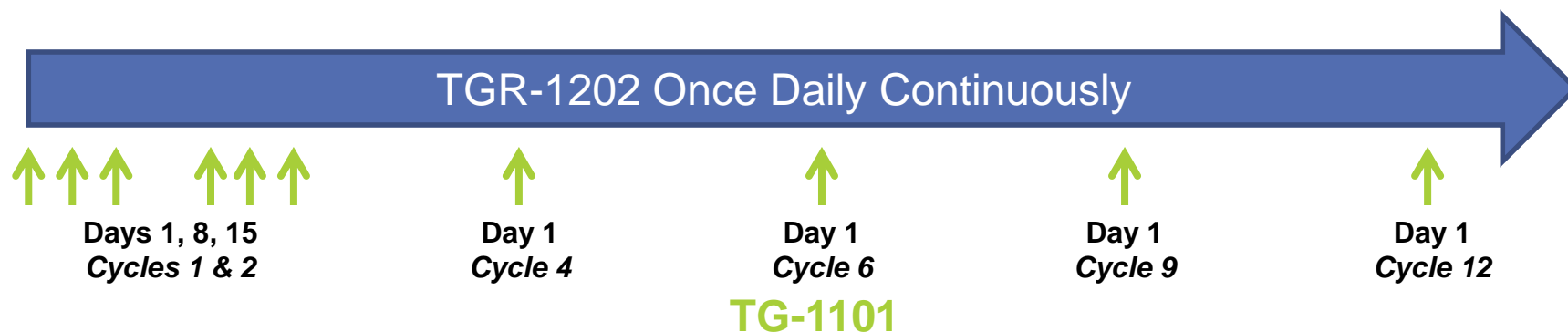
## Ibrutinib Phase II In Relapsed/Refractory CLL



## TG-1101 Phase Ib In Relapsed/Refractory CLL



# Phase I/II Study of TG-1101 + TGR-1202

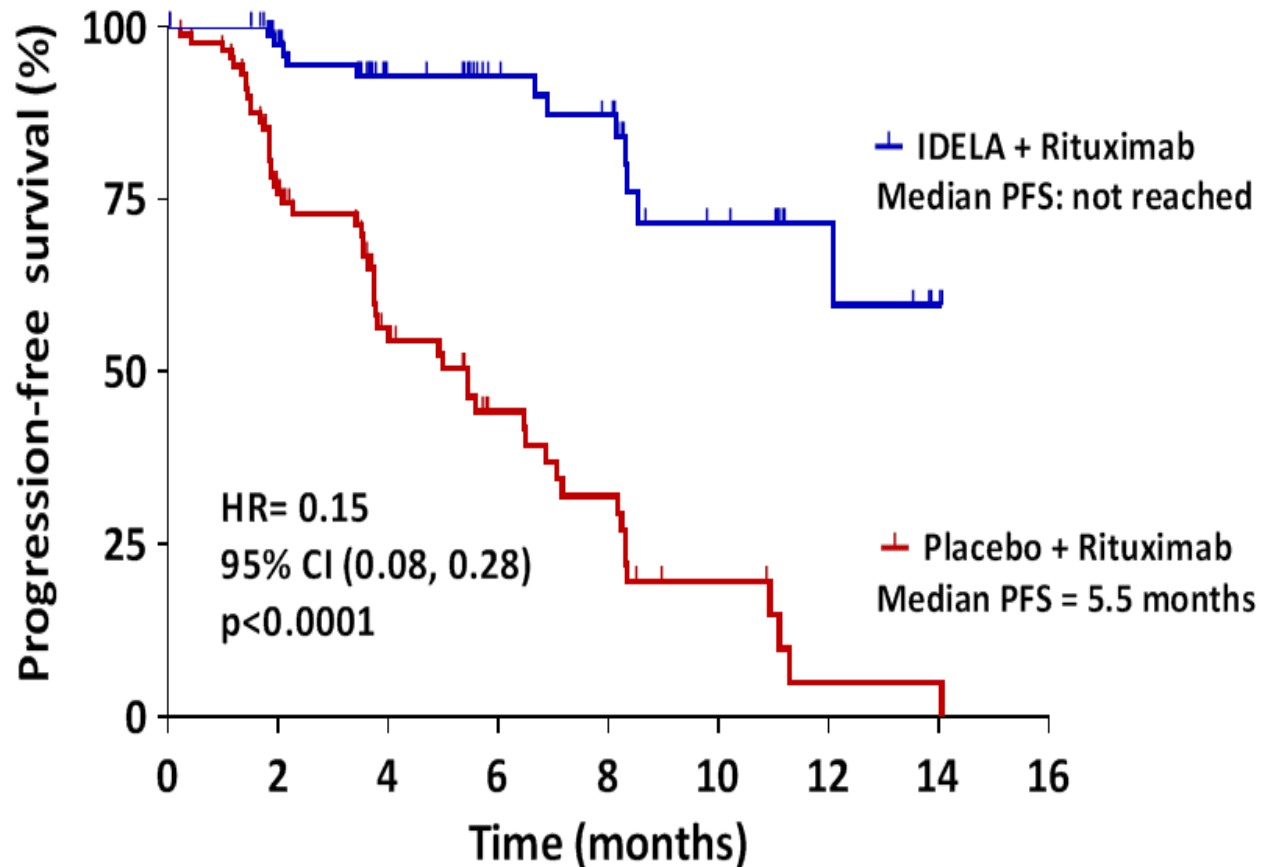


- Single arm study, in patients with CLL and NHL relapsed or refractory to at least 1 prior regimen (no limit on prior therapies)
- Patients with prior experience with PI3K-delta and BTK inhibitors are NOT EXCLUDED
- Study Chairs: Susan O'Brien, MD (CLL) and Nathan Fowler, MD (NHL)

# Proof of Concept of Combination of CD20 plus PI3k-Delta inhibitor



## Idelalisib + RTX vs. RTX



# 2014 Milestones



<b>1H 2014</b>	<b>Determine optimal dosing for TGR-1202 as single agent</b>
<b>1H 2014</b>	<b>Enroll Ph. 2 TG-1101 + Ibrutinib in CLL and MCL</b>
<b>1H 2014</b>	<b>Enroll Ph. 2 TG-1101 + TGR-1202 in B-cell Malignancies</b>
<b>Q2 2014</b>	<b>ASCO - Present updated single agent data for TG-1101 &amp; TGR1202</b>
<b>Q2 2014</b>	<b>EHA - Present prelim combo data for TG-1101 + Ibrutinib</b>
<b>Q3 2014</b>	<b>Pan-Pacific - Present prelim combo data for TG-1101 + TGR-1202</b>
<b>2H 2014</b>	<b>Commence combination registration trial(s)</b>
<b>Q4 2014</b>	<b>Present updated combo data and single agent TGR-1202 data</b>

## Key Statistics

**Ticker:**

**TGTX (NasdaqCM)**

**Price:**

**\$5.50**

**Shares:**

**~37M (Primary); ~43M (fully-diluted)**

**Cash:**

**~\$45.4M at December 31, 2013; plus \$16.8M net offering proceeds**

**Burn:**

**\$4-\$6M per quarter**

**Time:**

**24+ months of cash**



- Greatly expanding market opportunity, driven by novel targeted drugs with dramatically better outcomes
  - \$10-\$15B market opportunity, with room and need for multiple treatment options
  - Serial lines of therapy and differentiated safety and efficacy profiles will create multiple winners
- Unequivocal activity of TG-1101 and TGR-1202, both with possibly best in class attributes
- Multiple combination regulatory pathways for TG-1101 and TGR-1202
  - Enter pivotal trials in 2H14
  - Uniquely positioned to leverage multiple mechanisms



# TG Therapeutics

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