Personalized circulating tumor DNA analysis as a predictive biomarker in solid tumor patients treated with pembrolizumab

Scott V. Bratman, S. Y. Cindy Yang, Marco A. J. Iafolla, Zhihui Liu, Aaron R. Hansen, Philippe L. Bedard, Stephanie Lheureux, Anna Spreafico, Albiruni Abdul Razak, Svetlana Shchegrova, Maggie Louie, Paul Billings, Bernhard Zimmermann, Himanshu Sethi, Alexey Aleshin, Dax Torti, Kayla Marsh, Jenna Eagles, Iulia Cirlan, Youstina Hanna, Derek L. Clouthier, Scott C. Lien, Pamela S. Ohashi, Wei Xu, Lillian L. Siu, and Trevor J. Pugh.
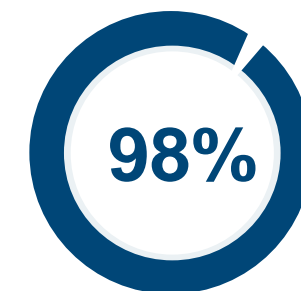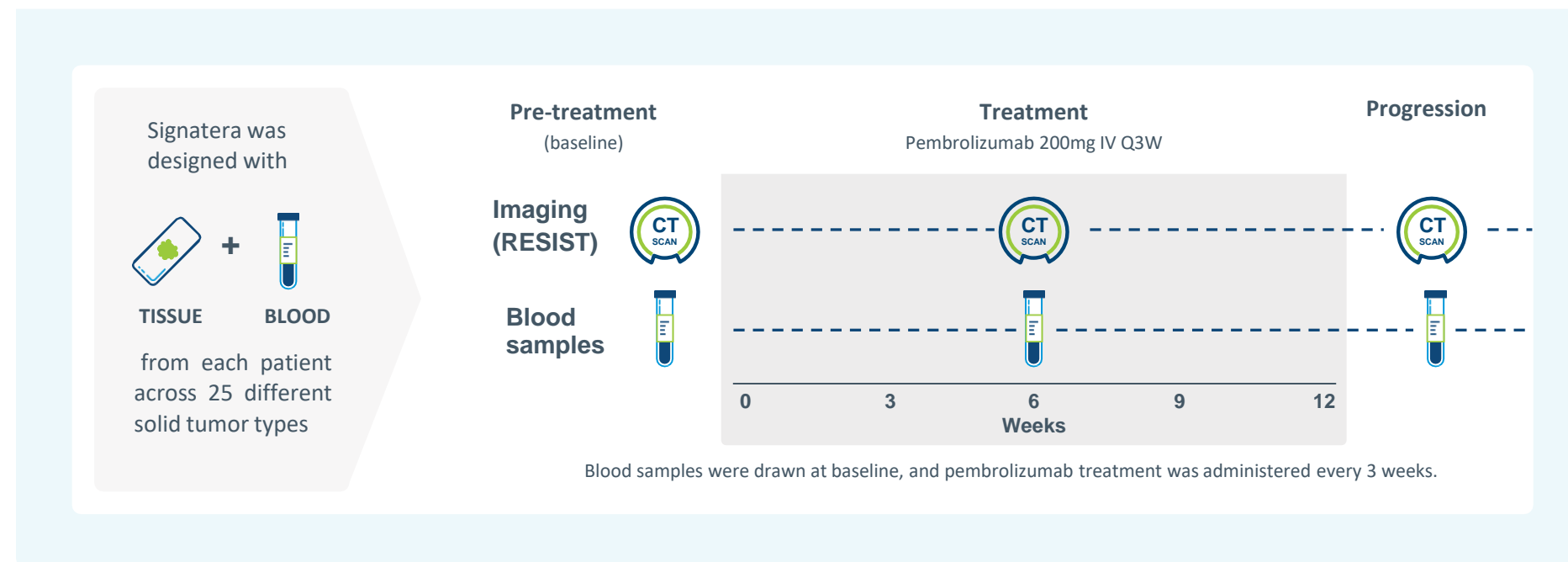
Published

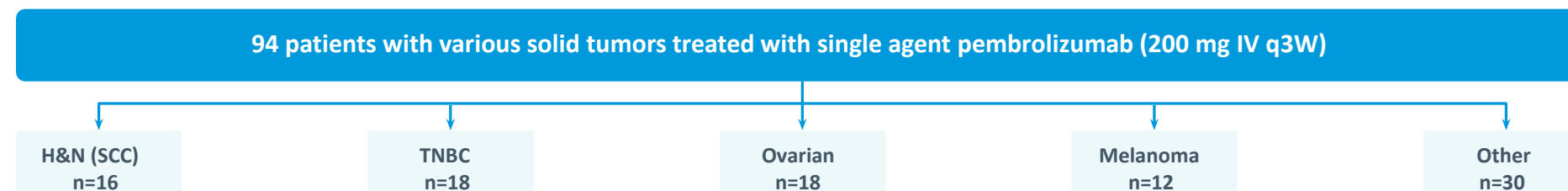# Clinical validation for immunotherapy monitoring
INSPIRE trial

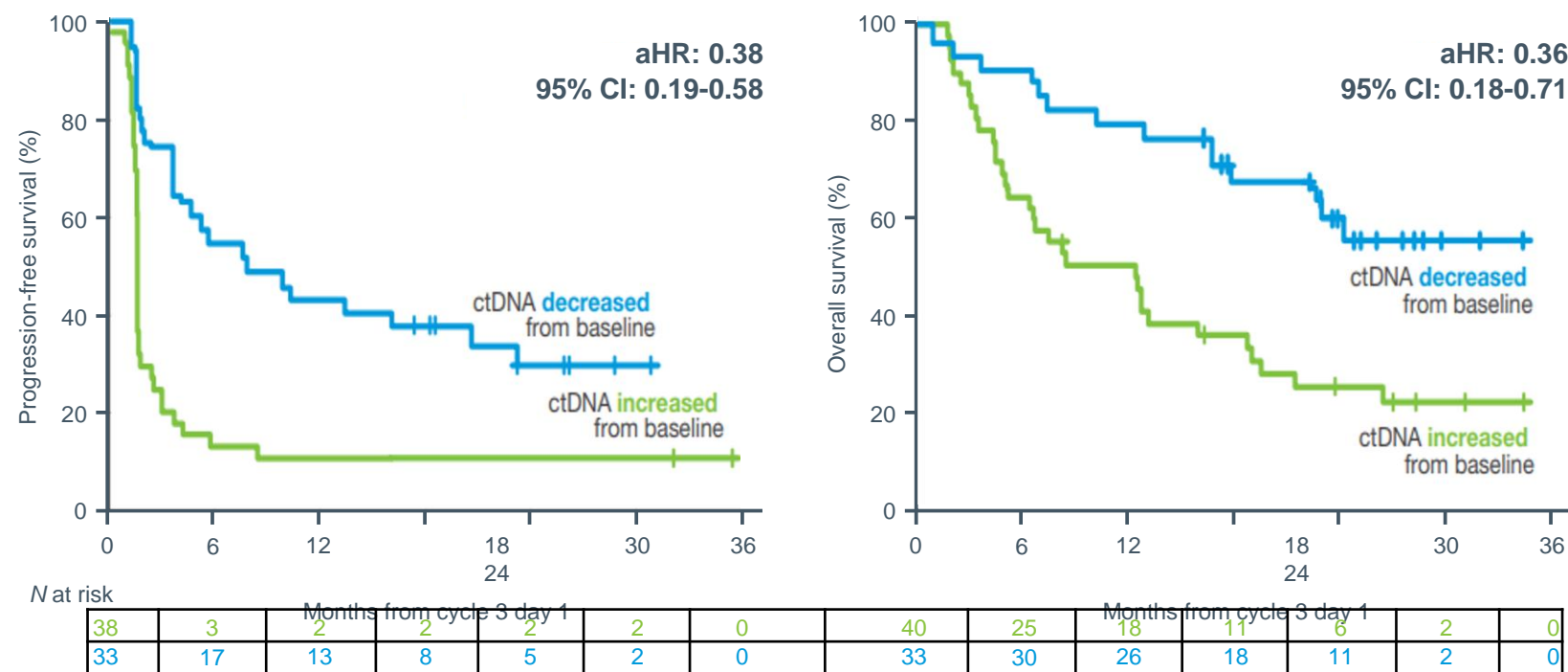Signatera was designed with

TISSUE + **BLOOD**

from each patient across 25 different solid tumor types

Pre-treatment (baseline)

Treatment
Pembrolizumab 200mg IV Q3W

Progression

Imaging (RESIST)

Blood samples

| 0 | 3 | 6 | 9 | 12 |

Weeks

Blood samples were drawn at baseline, and pembrolizumab treatment was administered every 3 weeks.

98%

of patients had detectable baseline ctDNA across tumor types

94 patients with various solid tumors treated with single agent pembrolizumab (200 mg IV q3W)

| H&N (SCC) n=16 | TNBC n=18 | Ovarian n=18 | Melanoma n=12 | Other n=30 |

1.Bratman SV, Yang SYC, Iafolla MAJ, et al. Personalized circulating tumor DNA analysis as a predictive biomarker in solid tumor patients treated with pembrolizumab. Nature Cancer. 2020;1(9):873-881.

natera™

Predict immunotherapy benefit as early as week 6 with ctDNA dynamics

A decrease in ctDNA relative to baseline at the beginning of cycle 3 is a strong predictor of PFS and OS
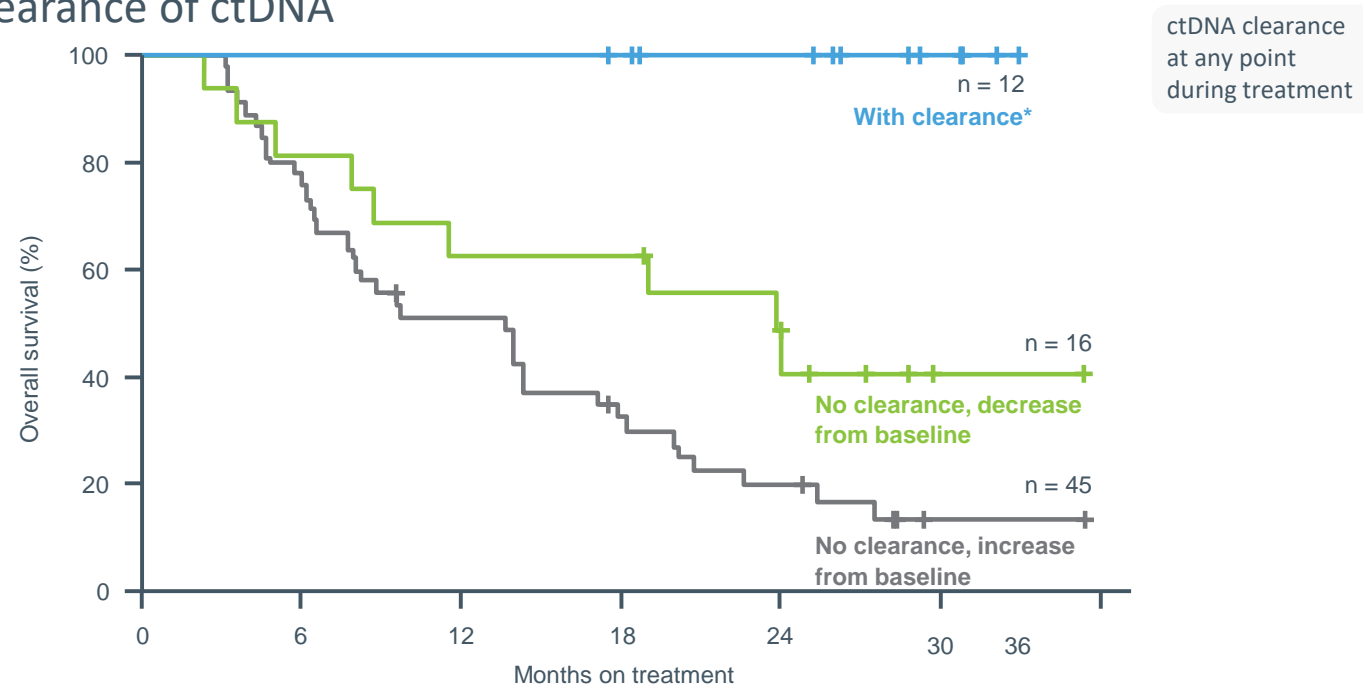

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ctDNA clearance at any time is correlated with overall survival

100% OS for patients who achieved ctDNA clearance during treatment

OS among patients with at least two ctDNA time points stratified by clearance of ctDNA

*Median of 25.4 months of follow-up beyond first clearance
ctDNA clearance defined as ctDNA undetectable for at least one on-treatment time point

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