



Biotechnology Entrepreneurship Boot Camp

Presented by:

**Murray Robinson, Ph.D.
CEO Rubk Therapeutics**

June 4–5, 2023

#BIO2023 #StandUpForScience



***Deep Tech Platform Solving the
Target Discovery Challenge in Solid Tumors***



***BIO Bootcamp Pitch
June 5, 2023***

Our mission: build effective cancer therapies by leveraging novel selective targets

Founding Team

Anna Chase, Ph.D.
COO



Murray Robinson, Ph.D.
CEO



Rick Nicoletti, B.S.
CTO



Advisors

Chris Benedict, Ph.D.

Immunologist, expert on mechanisms of immune escape

Associate Professor, La Jolla Institute for Immunology, Center for Infectious Disease, La Jolla, CA

Edmund Moon, MD

Physician Scientist, CAR-T clinical and research expert

Assistant Professor of Medicine, University of Pennsylvania, Perelman School of Medicine, Philadelphia, PA

David Siderovski, Ph.D.

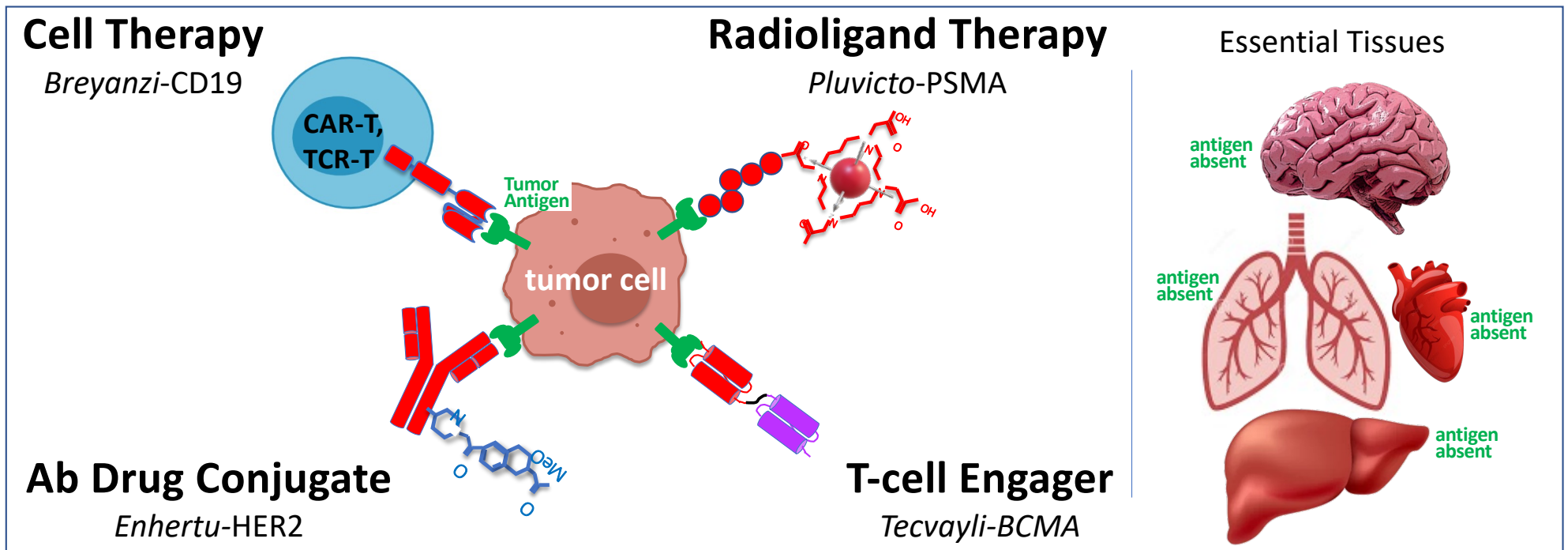
Pharmacologist, leading expert on G-protein signaling

Chair, HSC Pharmacology & Neuroscience, University of North Texas Health Science Center, Fort Worth, TX

*Murray founded Amgen's Cancer Research Program in 1996 (1991-2003)

Selective cancer targets are foundational to emerging therapeutic approaches

Opportunity: New modalities achieve therapeutic index through *tumor-selective* targeting



Challenge: Selective target ID has been elusive, despite considerable effort in the field

Selective targets are essential for safe and effective Cell Therapies

Non-selective: **severe toxicities**

(PSMA in normal brain, MSLN, MICA/B in normal lung)

TCR2 Therapeutics Stock Plunges On Safety Signals From Gavo-cel Solid Tumor Trial

MSLN

Tmunity stops solid tumor CAR-T trial after 2 patients die

PSMA

In latest setback for solid tumor CAR-T, Celyad pauses trial following two patient deaths

MICA/B

Atara, Memorial Sloan Kettering investigating patient death in phase 1 mesothelioma CAR-T study

MSLN

Selective: **manageable expression-linked toxicity** (CLDN18.2 in normal stomach, CD70 in normal immune cells)

54% response rate in Gastric Cancer

CLDN18.2-Directed CAR T-cell Therapy Effective, Safe in Gastrointestinal Cancers

CLDN18.2

June 5, 2022
Silas Inman



A Claudin18.2-specific CAR T-cell therapy has shown promise in the treatment of patients with heavily pretreated advanced gastric and pancreatic adenocarcinoma whose disease expresses the marker.

30% response rate in RCC

TRAVERSE Study Shows Preliminary Efficacy and Safety of ALLO-316 in Advanced Clear Cell RCC

CD70

Apr 25, 2023
Courtney Flaherty

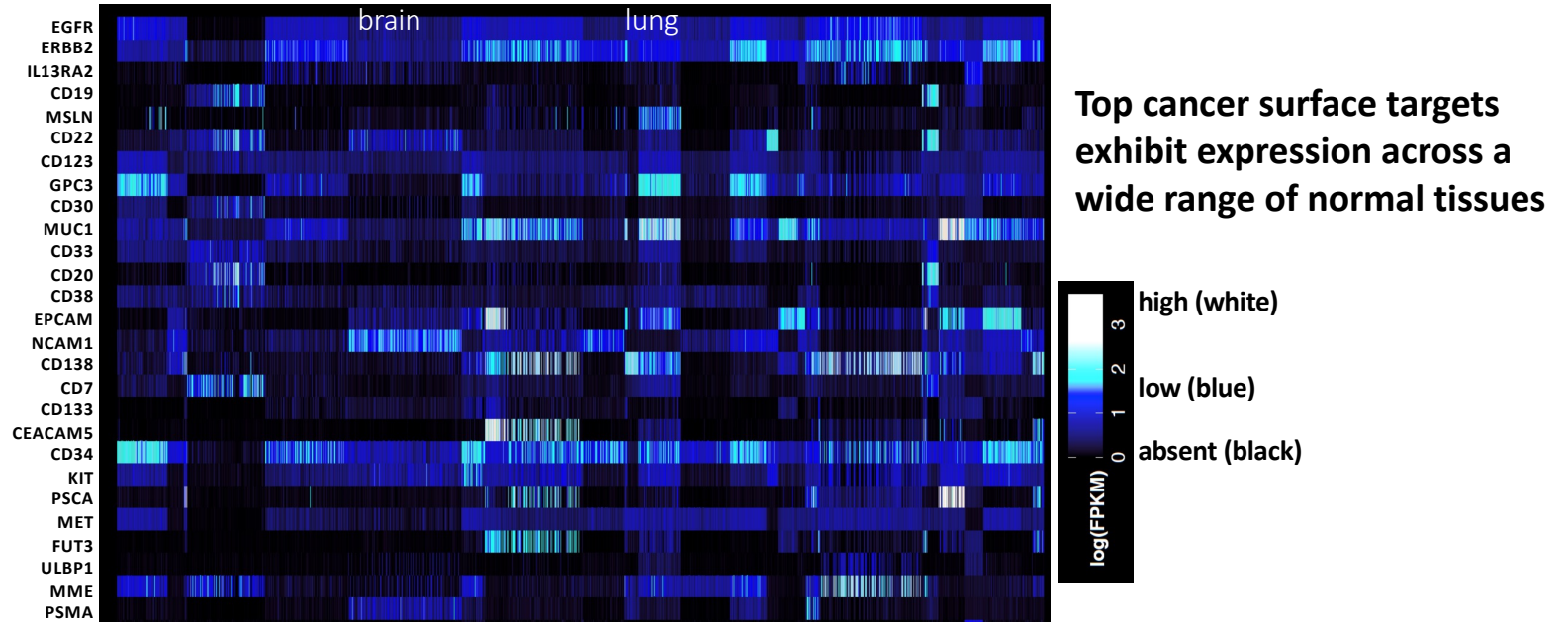


In Partnership With:
THE UNIVERSITY OF TEXAS
MDAnderson
Cancer Center
Making Cancer History®

Samer A. Srour, MB ChB, MS, explains the unique construction of ALLO-316, the potential for ALLO-316 to address an unmet need in patients with clear cell renal cell carcinoma, and how early data from the TRAVERSE study support the continued investigation of ALLO-316 in patients with CD70-expressing tumors.

Current tumor targets are also expressed in essential normal tissues— leads to on-target toxicity

Normal Tissue Expression of indicated target across 3,000 human tissue samples*

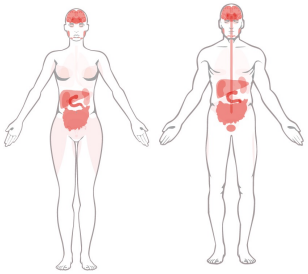


*adipose, adrenal gland, bladder, blood, blood vessel, brain, breast, cervix, colon, esophagus, fallopian tube, heart, kidney, liver, lung, muscle, nerve, ovary, pancreas, pituitary, prostate, salivary gland, skin, small intestine, spleen, stomach, testis, thyroid, uterus, vagina

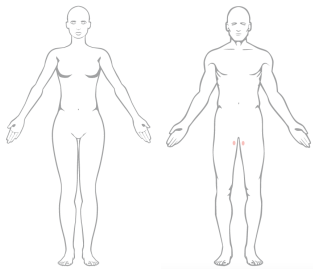
Target Discovery Step 1: Rubik proprietary algorithms identify genes restricted to “non-essential” tissues

Normal Tissue Expression of indicated target across 3000 human tissue samples*

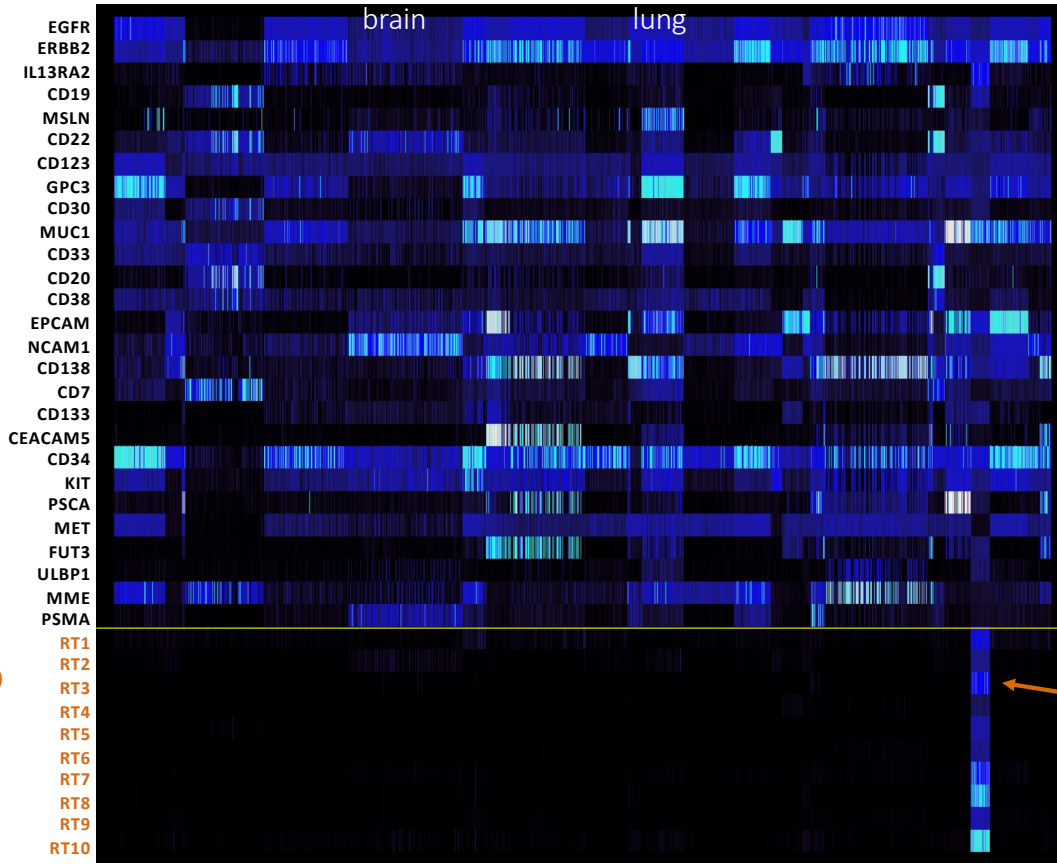
CAR: PSMA
Company:
many incl. T MUNITY™



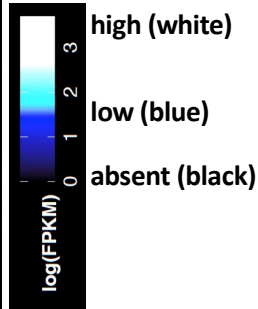
Rubik Target 1



Rubik Targets



Top cancer surface targets exhibit expression across a wide range of normal tissues

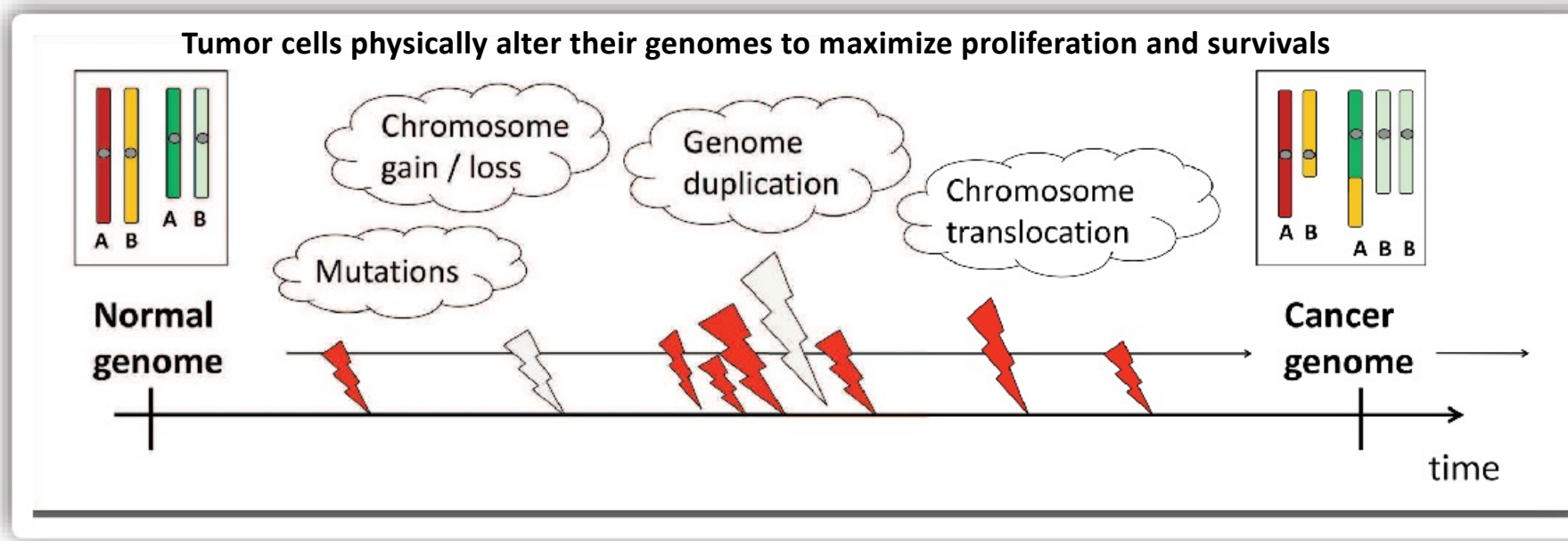


Rubik RT1-10 exhibit restricted expression in non-essential tissue

*adipose, adrenal gland, bladder, blood, blood vessel, brain, breast, cervix, colon, esophagus, fallopian tube, heart, kidney, liver, lung, muscle, nerve, ovary, pancreas, pituitary, prostate, salivary gland, skin, small intestine, spleen, stomach, testis, thyroid, uterus, vagina

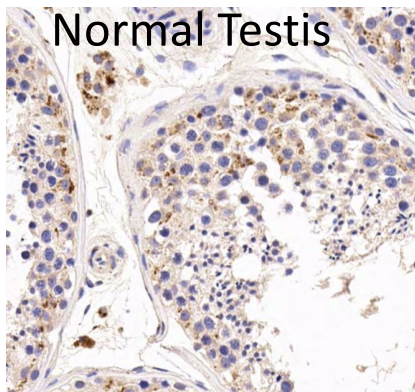
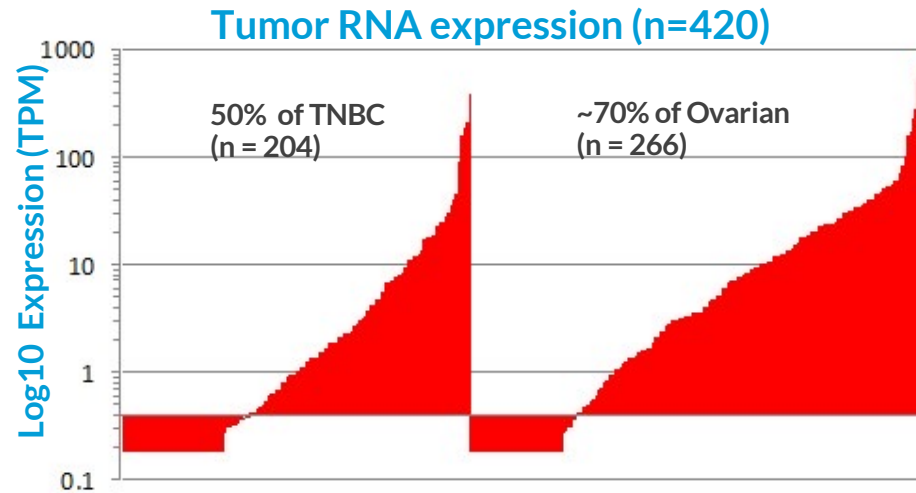
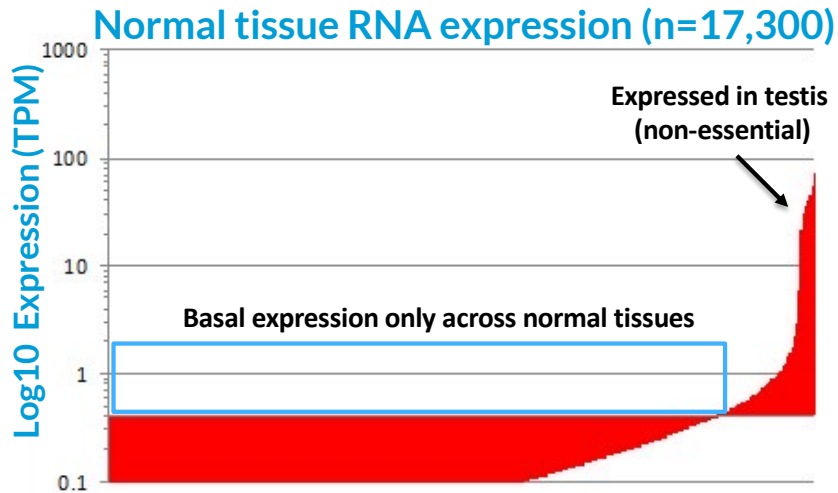
Target Discovery Step 2: OncoLinkage

- **OncoLinkage** computationally identifies targets that have become dysregulated through oncogenic lesions
- Designed and built to ID targets **resistant to loss, downregulation, heterogeneity**

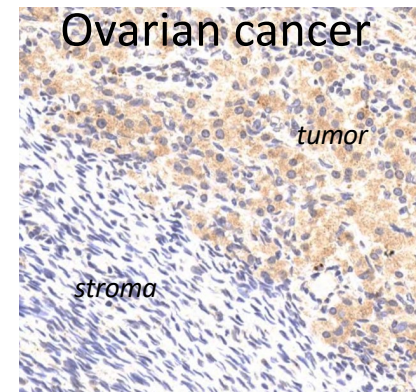


RT1 Target example: restricted expression in normal tissue, dysregulated in ovarian cancer and triple negative breast cancer

RT1 is on a Chr10 amplicon

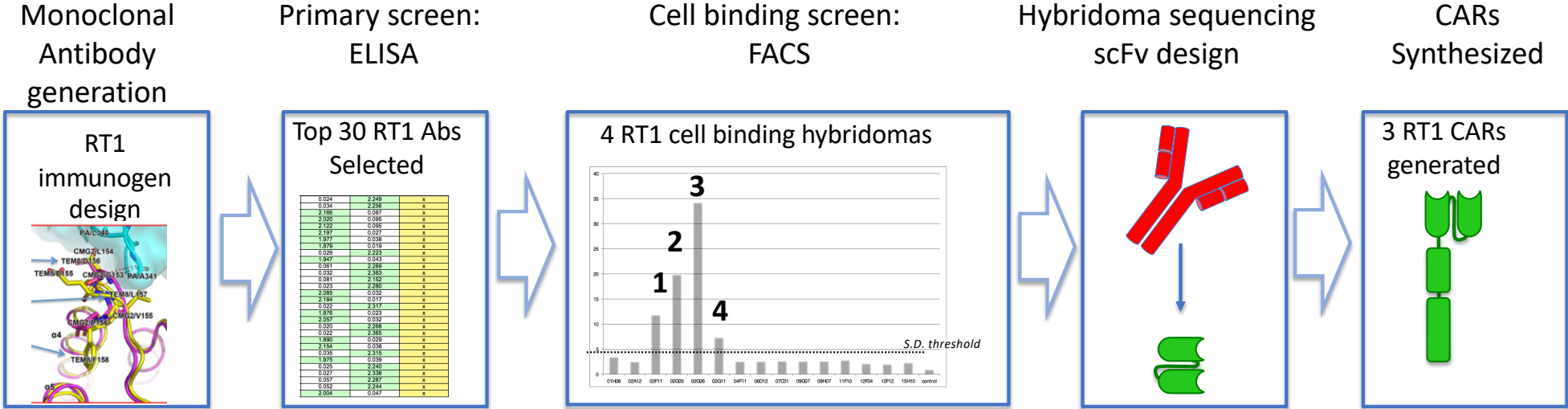


Protein expression (brown stain) correlates with RNA



CAR generation: RT1 CARs synthesized from cell-binding hybridomas

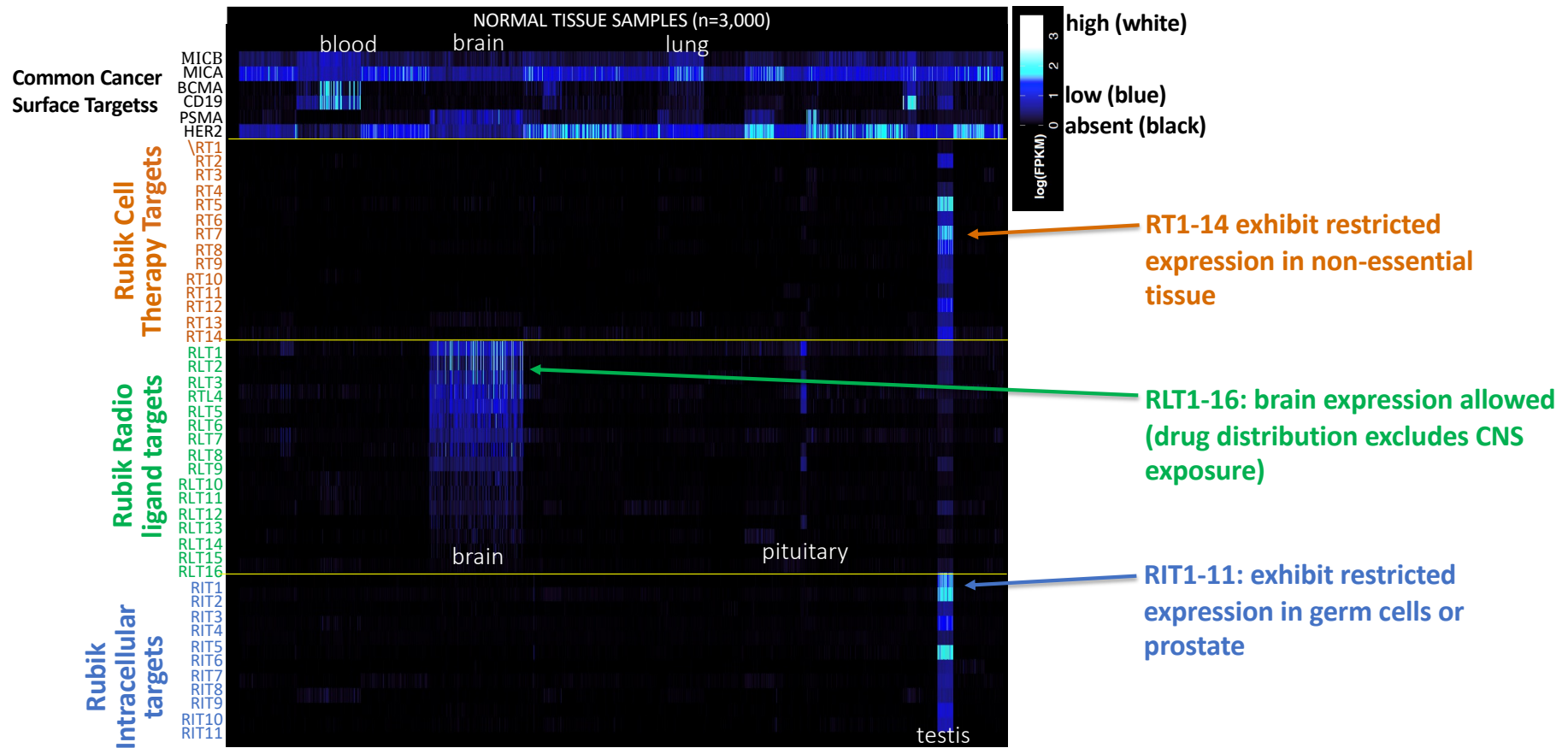
Rubik "Targets to CARs" pipeline



RT1 CARs currently in testing for target dependent activation, killing

Cell Therapy, Radioligand, and Intracellular targets discovered via algorithm tuning

Computational pipeline leverages unique algorithms to discover selective cancer antigens



Normal Tissue Expression of indicated target across 3000 human tissue samples*

*adipose, adrenal gland, bladder, blood, blood vessel, brain, breast, cervix, colon, esophagus, fallopian tube, heart, kidney, liver, lung, muscle, nerve, ovary, pancreas, pituitary, prostate, salivary gland, skin, small intestine, spleen, stomach, testis, thyroid, uterus, vagina

We are currently raising seed funding to support asset development for partnering

- Rubik has an opportunity to build the company using non-dilutive partnership revenues from early platform assets
- Our ideal funding partner can also support pharma business development campaigns
- Our iterative partnering strategy enables deal 1 proceeds to enhance value of deal 2...

Upcoming Milestones:

1. *In vitro* POC for lead target CARs
2. Close intracellular targets partnership
3. Validate radioligand lead
4. Close Radioligand target + lead partnership
5. Test AI platform for *de novo* generation of target binders (RF Diffusion)

Contact: Murray Robinson CEO murray@rubiktherapeutics.com