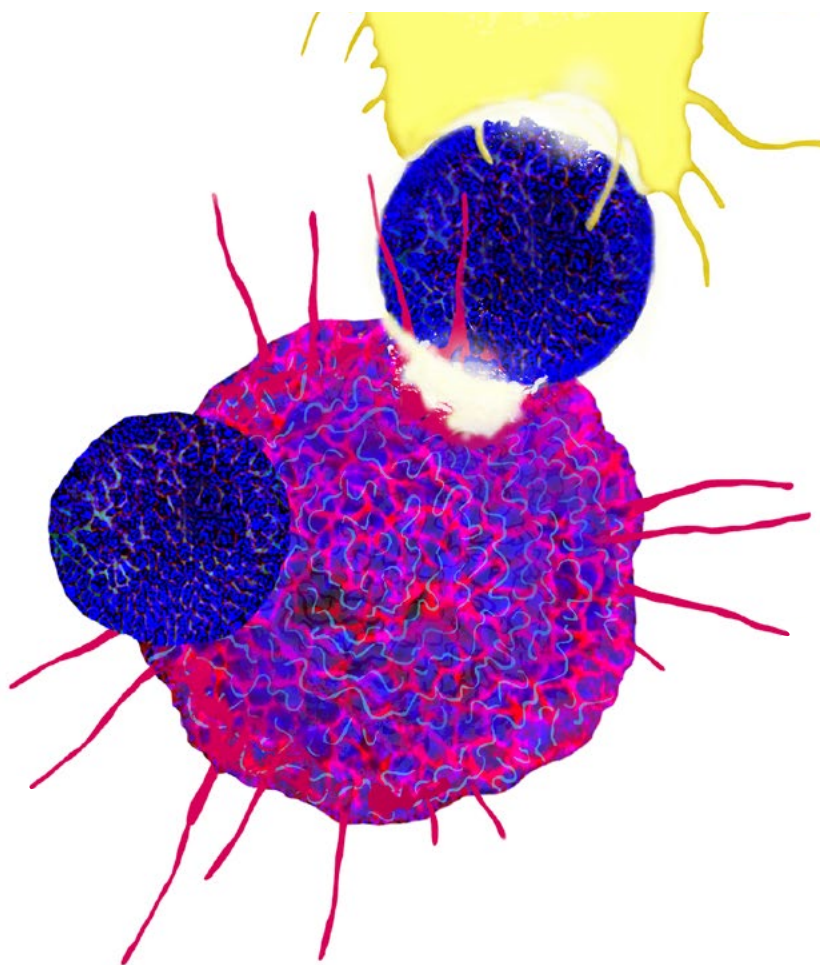




Tools for Targeting Immuno-Oncology: Where Scientific Leadership Intersects Innovation



CELL CULTURE



IN VITRO, IN VIVO,
EX VIVO ASSAY TOOLS



GMP-GRADE
REAGENTS



CELL IMAGING



TUMOR IMAGING



SINGLE-CELL
ANALYSIS



SINGLE & MULTIPLEX
IMMUNOASSAYS



GENE
EXPRESSION



PROTEIN
EXPRESSION

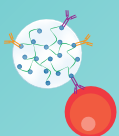
The pace of discovery is amplifying and development booming! But take heed, the complexity of cellular interactions, signaling pathways, mechanisms of tumor immune evasion, and adverse responses to immunotherapy continue to impede clinical success. Immuno-oncology workflows are also further complicated by the heterogeneous, time-sensitive, and often sparingly available nature of samples. Our portfolio of gold-standard tools and assays, accurate methods, and innovative technologies empowers you to make the kind of meaningful conclusions and quick decisions that drive discovery by streamlining how you get it done.

Our Mission:

We are committed to advancing immuno-oncology research and unlocking its full clinical potential by providing solutions to workflow challenges that exceed the expectations for product quality, instrument performance, and comprehensive support. Through these efforts, we aim to support researchers in delivering renewed hope to patients with advanced cancer.

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Browse products:

rndsystems.com/immune-cell-culture

Get started with Cloudz™ technology:

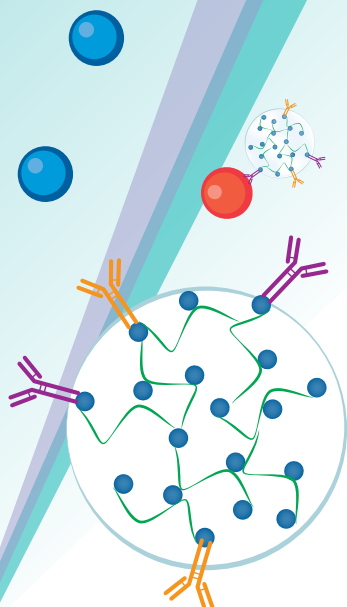
rndsystems.com/cloudz

Find tools for interrogating your
molecular pathway or target:

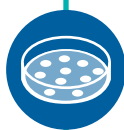
tocris.com/cancer-immunology

Growing 3-D?

[rndsystems.com/
organoid-and-3d-culture](https://rndsystems.com/organoid-and-3d-culture)



Preclinical cell culture model systems have provided researchers with an immense amount of mechanistic knowledge, yet the demand for more predictive translation *in vivo* points to the need for improved methods. Our industry-leading products are stringently screened for lot-to-lot consistency, optimized for specific cell-type growth, and available in published protocols to best support your ability to generate reproducible results.



Cell Culture

- Easily isolate and enrich for cells using bead-free Cloudz™ technology to obtain a population that is immediately ready for downstream applications
- Advance your cell culture workflow with high-quality cell type-specific media and supplements, buffers, solvents, and antibiotics to optimize cell health
- Accurately measure cell viability using the Calcein AM Kit
- Obtain reproducible cell proliferation results using the non-radioactive TACS® MTT and XTT Assays
- Streamline immune cell differentiation with extensive CellXVivo™ Kit options
- Develop *in vivo*-like 3-D cultures to model disease, investigate cell migration, or screen for therapeutic efficacy with a range of resources



In Vitro, *In Vivo*, *Ex Vivo* Assay Tools

- Activate cells and identify subsets with antibodies guaranteed to perform consistently
- Investigate molecular pathways and mechanisms using a range of agonists, antagonists, inhibitors, and antibodies
- Characterize target effects with an unparalleled selection of recombinant bioactive proteins, including Animal-Free and Animal Component-Free Process options
- Identify immunosuppressive cell types and contributory mechanisms with a wide selection of relevant proteins, small molecules, and antibodies also validated for other techniques, such as flow cytometry and Western blot
- Monitor immune cell exhaustion using an array of products, including proteins, antibodies, and assays for proliferation and cell death
- Adopt Cultrex® basement membrane extract (BME) for xenograft models, including patient-derived xenografts

Isolate and Activate *continued*



GMP-Grade Reagents

- Take advantage of GMP proteins and small molecules designed to meet requirements for use as ancillary reagents during cell therapy development and manufacturing
- Minimize exposure to potential contaminants or byproducts with our Animal-Free protein and small molecule production options
- Seamlessly switch from traditional grade research material, as our GMP-grade proteins often originate from the same clone, sequence, and expression system
- Enjoy the lowest endotoxin specification on the market (<0.1 EU/μg)
- All proteins are manufactured in an ISO 9001:2015, ISO 13485:2016-certified facility
- All GMP small molecules are manufactured following relevant sections of ICH Q7 guidelines

Working in a GMP environment?
bio-techne.com/clinical-solutions

Don't see it? We'll do it custom.
rndsystems.com/customcellculture



Visualize and Characterize

Explore RNAscope® assays in immune-oncology:

acdbio.com/immuno-oncology

Find directly conjugated, multi-application validated antibodies:

novusbio.com/conjugated-antibodies

Discover our selection of fluorescent dyes, including Janelia Fluors®

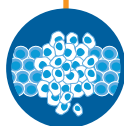
tocris.com/fluorescent-dyes

Clearly navigating cell-type heterogeneity and cell interactions, and characterizing unique gene and protein expression profiles, are important for identifying predictive markers and for clinical translation. We offer a versatile and innovative set of tools for visualization of morphology, target localization, and expression of RNA or protein in live cells, fixed cells, or tissue.



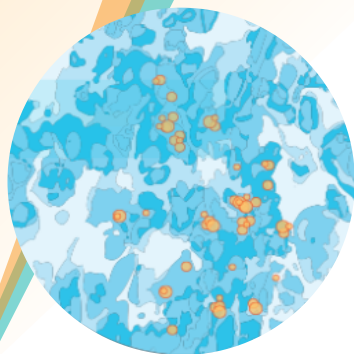
Cell Imaging (ICC/IF)

- Define cellular morphology and intracellular components with a wide selection of dyes and stains, including DAPI, Hoechst, Hematoxylin & Eosin
- Selectively track cell types with specific antibodies also validated for techniques such as IHC, flow cytometry, Western blot, and CyTOF
- Precisely visualize target protein markers by multiplexing with dye-conjugated primary antibodies, including Alexa Fluor®, DyLight®, Janelia Fluor® conjugates



Tumor Imaging (ISH/IHC)

- Profile mRNA and protein colocalization in the tumor microenvironment using the RNAscope® and BaseScope™ ISH assays and ISH-compatible/IHC-validated antibodies
- Detect multiple immune checkpoint markers in the tumor microenvironment with the RNAscope® assay
- Characterize tumor immune cell infiltration by detecting co-expression of cytokines/chemokines and immune cell markers with the RNAscope® and BaseScope™ assays
- Examine cell type-specific and conditional genetic modifications using the RNAscope® and BaseScope™ assays
- Multiplex protein targets using dye-conjugated IHC primary antibodies or conjugatable Janelia Fluor® Dyes



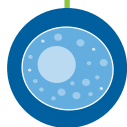
Verify and Quantify

Build your flow panel now:
novusbio.com/novusknowsflow

Shop RNAscope® probes and assays:
acdbio.com/products

Find the ELISA that's right for you:
rndsystems.com/elisas

Tired of tedious workflows with low reproducibility and sensitivity for analyzing the highly heterogeneous and time-sensitive nature of your samples? We understand. Our combined decades of experience have produced both scientific gold standards and market-leading innovations to support your detection and analysis goals, and at unprecedented speeds.



Single-Cell Analysis

- Selectively characterize cell types and lineages, monitor activation or exhaustion, status and memory with a wide selection of marker-specific antibodies that can be conjugated to an assortment of fluorescent dyes to build the flow cytometry panel you need
- Characterize FACS-sorted, highly enriched cell populations using Milo™
- Determine the frequency of cytokine secretion for a single cell with the most accurate and sensitive ready-to-go ELISpot kits available
- Acquire the spatial signature of single-cell transcriptomes in tissue using the RNAscope® and BaseScope™ assays
- Validate single-cell RNA sequencing data using the RNAscope® technology, followed by protein level analysis via Single-Cell Westerns on Milo™ and conventional Western blot antibodies



Single and Multiplex Immunoassays

- Detect changes in up to 119 analytes in one sample using Proteome Profiler™ Antibody Arrays, then analyze results using FluorChem™ imagers and AlphaView® software
- Multiplex up to 50 analytes using bead-based Luminex® assays
- Measure single- or multi-analyte levels in just 1 hour using highly sensitive Simple Plex™ assays on Ella that have a 3 to 5 log dynamic range and single-digit inter- and intra-assay CV values
- Use the industry gold-standard, Quantikine® ELISA Kits for single-analyte confirmation
- Choose from over 800 flexible, single-analyte DuoSet® ELISA Development Systems

Verify and Quantify *continued*

Get KO-validated antibodies:

novusbio.com/ko-validated

Meet the world's first Single-Cell Western platform, Milo™:

proteinsimple.com/milo

See how Jess™ automates and simplifies Western blotting:

proteinsimple.com/jess



Gene Expression

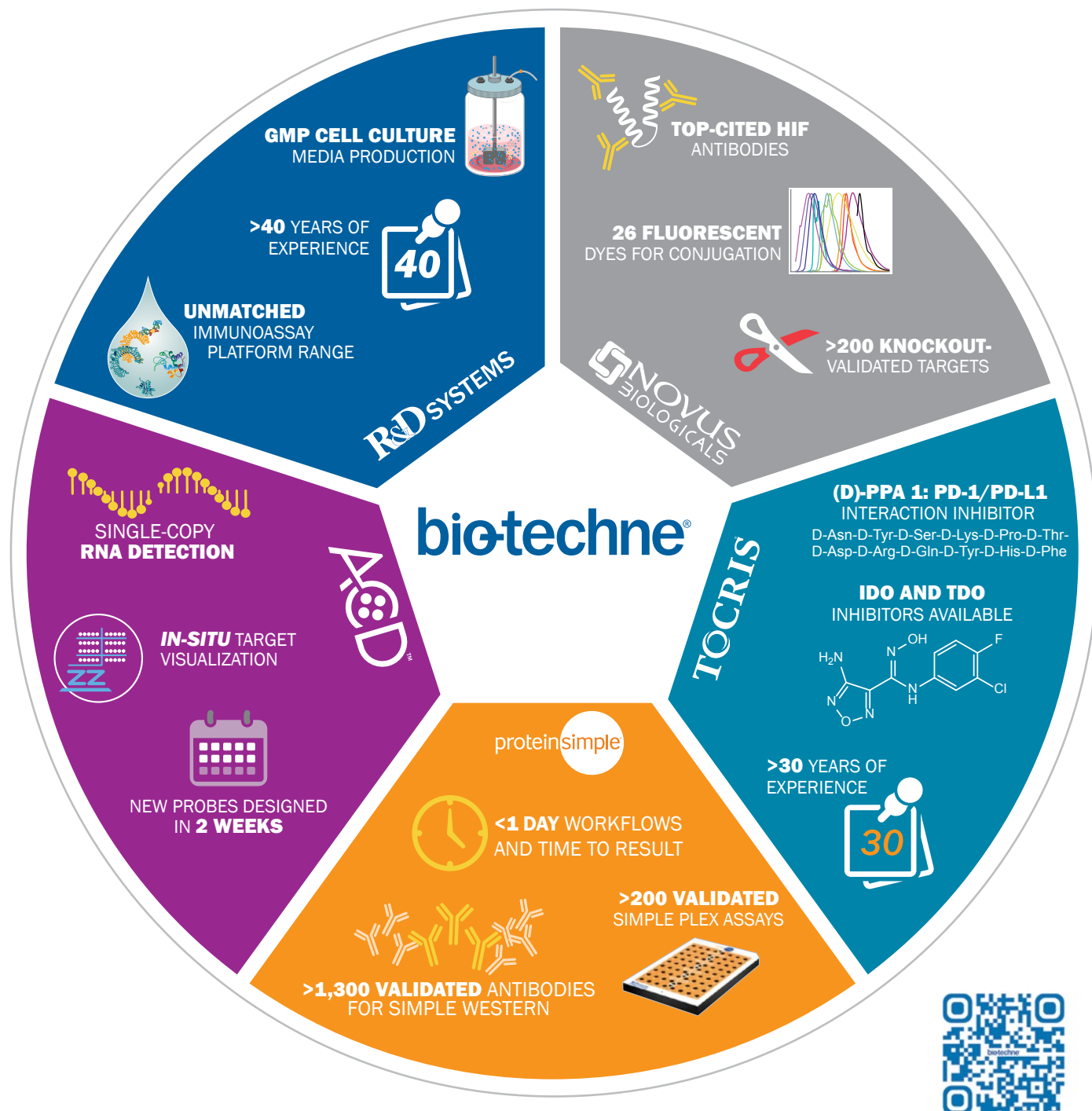
- Verify and quantify RNA molecules at single-cell resolution using the RNAscope® and BaseScope™ assays
- Utilize the BaseScope™ assay for detection of short targets, highly homologous sequences, and splice variants
- Choose from a library of gene knockout-validated antibodies, custom cell lines, and cell lysates generated using CRISPR/Cas9
- Use Laverne, a bioinformatics tool, to facilitate scientific exploration of related genes, disease states and types, and pathways based on co-citations



Protein Expression

- Use just 3 µL of sample for picogram-level sensitivity and get quantitative data in just 3 hours using Simple Western™ assays on Jess™ and Wes™ and Compass for Simple Western software; Simple Western systems are supported for use in QC and GMP environments
- Measure protein expression heterogeneity in just ~1,000 single cells using Single-Cell Westerns on Milo™ and Scout software
- Detect faint and bright bands at once using FluorChem™ imagers that span a 5-log dynamic range followed by complete analysis using AlphaView® software
- Choose from thousands of antibodies validated for Simple Western™ and Single-Cell Western assays, Western blot, IP, and ChIP

Bio-Techne and its family of world-class brands reliably partner with investigators and industry to facilitate Immuno-oncology research progress. By assuring the scientific quality of our products, instruments, and services, we are enabling breakthroughs to advance from scientific discovery to clinical development.



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