



Propel your drug development journey forward with RoukenBio

✉ hello@rouken.bio

🌐 www.rouken.bio

in [@RoukenBio](https://www.linkedin.com/company/roukenbio)

RoukenBio – CRO redefined.

We take our tagline seriously. We're disrupting the traditional CRO model with our collaborative, personalised approach to drug discovery.

Backed by brilliant minds, we offer a range of *in vitro* bioassay and bioanalytical services including immune cell assays, cell line engineering, custom assay development, safety and efficacy assessments and mechanism of action elucidation. Working across immuno-oncology, oncology, auto-immunity, inflammation and allergy, we focus on novel and emerging therapeutic classes.



79

Net Promotor Score - our clients love working with us



27

Countries with customers globally



484

square meters of lab space with state-of-the-art instruments



100+

Employees and growing

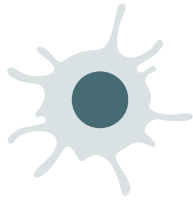


Our array of *in vitro* assays

We excel at “difficult-to-execute” *in vitro* assays, cellular bioassay method development, and complex primary immune cell systems. We deliver the mechanistic and characterisation data you need to reach the clinic faster.

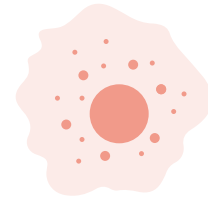
Immunology assays

We apply *in vitro* models and co-culture formats to test the effect of your drug on different immune cell types, and where appropriate their interplay with target cells. This includes:



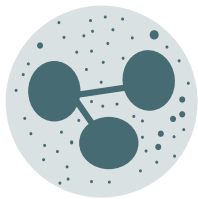
Dendritic cells

- Mixed lymphocyte reactions: one-way and two-way MLRs
- Antigen recall assays: CEF(T), CMV, EBV, MART-1 and more
- Dendritic cell (DC) differentiation and activation



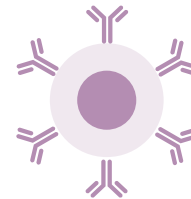
Macrophages

- Macrophage polarisation
- TAM-like polarisation
- T cell suppression
- ADCP / phagocytosis
- Macrophage MLR



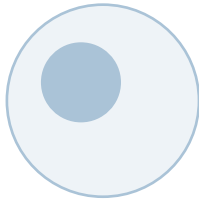
Neutrophils

- Isolation from freshly collected blood
- Functional assessments e.g. by CD62L shedding, myeloperoxidase release, ADCC, phagocytosis, NETosis



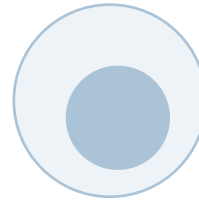
B cells

- Phenotypic assessment
- Subset isolation (naïve, memory, regulatory)
- Activation proliferation and differentiation *in vitro*
- Assessment of secreted antibody and cytokines



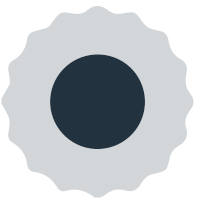
Tregs

- Natural Tregs
- Inducible Tregs
- Treg expansion
- Suppression assays



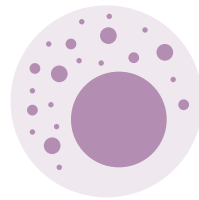
T cells

- T cell exhaustion model
- Cytotoxicity (TDCC)
- T cell activation
- Antigen recall
- T cell banks
- CAR-T cell engineering



Cell lines

- Custom cell line engineering service
 - Attenuated expression
 - Inducible expression (IndEx-2)
 - Reporter cell systems
 - Knock-out cell lines (and knock in - KOKI)
- In-house banks
 - Immortalised cells
 - Reporter cell lines
 - Engineered target-expressing cell lines
 - Cancer cell lines



NK cells

- ADCC
- NK cell-mediated cytotoxicity
- NK cell activation
- NK cell banks

Bioanalytical assays

Our specialist team has decades of experience in designing, developing and conducting 'GMP-ready' assays. We're experts at creating bespoke bioassay systems to screen and characterise biotherapeutics. Our bioanalytical assay portfolio includes:



Antibody effector function cell-based assays

- Antibody-mediated cellular cytotoxicity (ADCC)
- Complement-mediated cytotoxicity (CDC)
- Antibody-dependent cellular phagocytosis (ADCP)
- Trophocytosis



Potency and lot release assays

- Method development
- Custom engineering of target cell lines and reporter cells
- Cryopreserved PBMCs and whole blood donors as primary effector populations
- Genotyped and pre-screened donors e.g. FcR variants, HLA-typing
- Bioassay development and qualification to 'GMP-ready' standard
- Technical transfer of developed methods



Binding analysis

- Antigen binding and ligand-analyte interactions
- Full kinetics by Surface Plasmon Resonance (SPR) assessments
- Full on-cell kinetics with single-cell interaction cytometry (SC-IC)
- FcR binding characterisation by SPR (Human, Murine, Cyno), with unique inverse orientation
- ELISAs – off-the-shelf and custom method development





Cell line development

We specialise in creating cell lines for all stages of therapeutic development; cell-based bioassays for screening, selection, functional assessments and potency/lot release. Our expert team employ a range of molecular tools to create custom genetically engineered cell lines to specification and fit for the intended application.

We create bespoke engineered cell lines;

- Custom synthetic or chimeric gene / construct design
- Attenuated expression levels to achieve specific stable expression levels
- Our IndEx-2 inducible expression platform
- Response element (conditional-promoter) regulated reporter cell lines and systems e.g. reporter cell systems
- Difficult-to-express protein targets
- Linked reporter gene (surrogate marker) expression
- Primary cell engineering, e.g. chimeric antigen receptor T (CAR-T) and T cell receptor T (TCR-T) cells
- RNAi-mediated knockdown cell lines



Safety and efficacy assessment

IndEx-2 is our *in vitro* cell line platform that can be customised to inducibly express any one or two proteins in any genetic background. IndEx-2 can be used *in vitro* to determine the activation thresholds of candidate immunotherapies and antibody-targeted therapies.

When integrated with primary cell-based assays, IndEx-2 can deliver data on a drug candidate's mechanism of action and safety profile. Our pre-developed single-inducible IndEx-2 cell lines are ready to use in assays now:

- | | | | |
|---------------|------------------|---------------|-------------------|
| • CD19 | • PD-L1 | • B7H3 | • CLDN3 |
| • CD22 | • FOLR1 | • PSMA | • TROP2 |
| • Her2 | • EpCAM | • EGFR | • CLDN18.2 |
| • BCMA | • CEACAM5 | • cMET | • DLL3 |

The above inducible cell lines are in the CHO-K1 background, but any genetic background can be engineered. We have two additional cell lines in different cancer cell backgrounds to use in assays:

- **A549 - FOLR1**
- **HCT116 - B7H4**

Why select RoukenBio?

United by a passion to make sense of complexities and overcome challenges, we apply our specialised knowledge to big-picture thinking. We will explore every option to deliver over and above for your project.



Our mission is simple:

**Solve problems. Deliver quality data.
Propel your drug discovery breakthroughs.**

We are thought leaders with a deep understanding of immunology, bioassays, molecular biology and cell biology and a track record of groundbreaking discoveries and novel cell-based tools.

Your trusted solutions partner

As a comprehensive solutions provider, we go beyond offering a wide range of off-the-shelf assays. Our specialty lies in crafting bespoke solutions and developing innovative methods tailored to your unique needs.

This versatility accelerates your drug discovery process and drives real innovation. With an exceptionally high Net Promoter Score of 79, it's clear our clients not only trust us -they love working with us.

We cover the full spectrum of discovery to pre-clinical phase



Molecules we've mastered

The types of molecules we typically work with are diverse. All immunotherapies and antibody-based molecules; **mAbs, BsAbs, multi-specifics, immunocytokines, cell therapies, targeted protein degraders, small molecules, oligonucleotide-based, nanoparticles, complex biologics, peptides** and more!

Our assay platforms, methodologies and custom solutions have been applied to all the drug classes listed above.



RoukenBio – Your Collaborative Research Organisation

Our unique, personalised approach champions collaboration. You'll have knowledge on tap with our in-house experts working to create custom cell lines and assays.

- **Choose from custom and off-the-shelf**

Our approach to drug discovery is flexible. We know that all projects are different, and we adapt with their twists and turns. Sometimes though, you need a quick solution. So, we've also developed off-the-shelf assays to save you precious time.

- **State-of-the-art Discovery Centre**

Our newly renovated Discovery Centre is equipped with advanced instruments to deliver the best quality data possible. Every single time. Paired with our brilliant minds, this propels your drug discovery onwards.

Interested? Get in touch.

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