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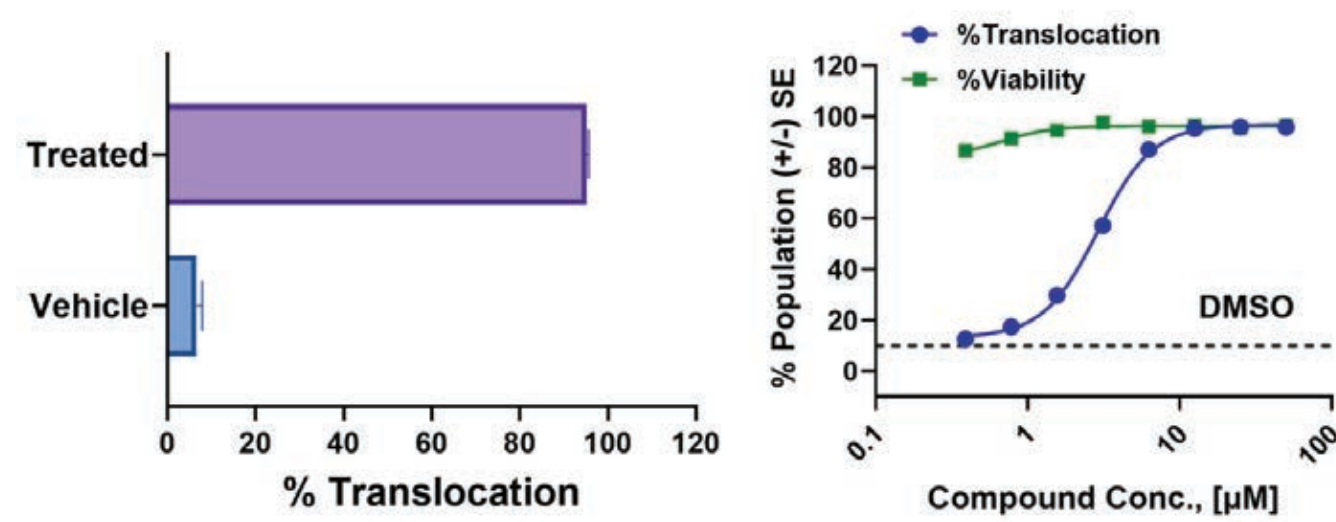
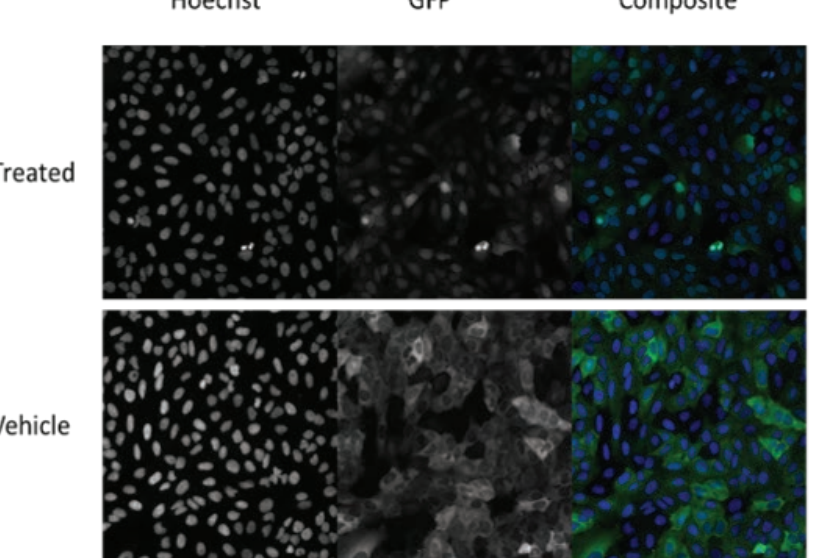
Overview

o2h Discovery has enhanced its biology expertise across therapeutic areas in Cambridge, UK, and Ahmedabad, India, utilizing advanced platforms to support all stages of preclinical drug discovery, from lead optimization to IND filing. Our Integrated Drug Discovery (IDD) approach combines biology, chemistry, and ADME capabilities to accelerate the design-make-test-analyze cycles. Our experienced biologists develop customizable assays to support potency-to-efficacy translation and mechanism-of-action characterization, with seamless collaboration between our UK and India teams. Specializing in small molecule drug discovery, we bring in-depth expertise in target biology, providing valuable insights that drive progress in complex biology projects across a broad range of therapeutic areas.

High-content imaging (HCI)

- o2h Discovery leverages high-content imaging (HCI) systems with confocal capabilities for high-resolution, quantitative, realtime analysis of lead molecule characterization across several biological processes.
- These include protein trafficking, receptor internalization, cell cycle progression, apoptosis, drug resistance, DNA damage response, and changes in cell health and morphology.
- By providing spatial, quantitative, and morphological data, HCI enables precise target engagement analysis.
- o2h has developed bespoke HCI speckle assay to analyze phenotypic changes in spliceosome factors induced by molecules targeting mRNA splicing factors.
- In collaboration with Semarion, o2h Discovery has enhanced the HCI approach for DNA damage analysis using the innovative SemaCyte[®] microcarrier system, optimizing cell monolayer management for more efficient drug discovery.

Nuclear protein translocation phenotype



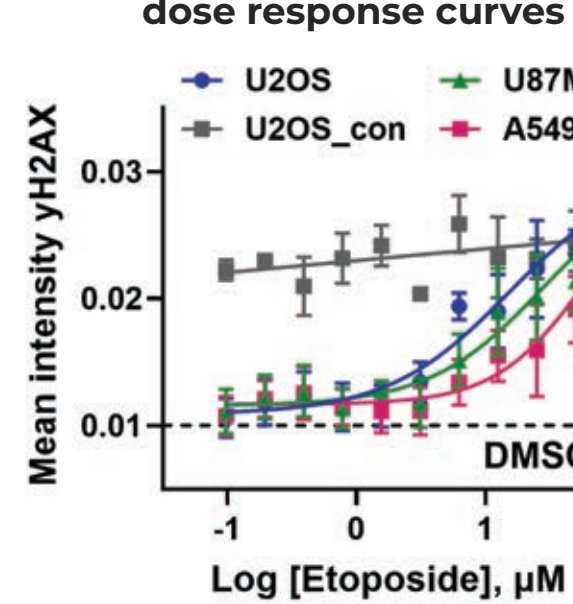
Assay Parameters

- 3 cell lines (U2OS, U87MG, A549)
- Each assigned SemaCyte barcodes
- Revived following frozen storage
- Pooled for assay
- Drugged 2hr with EP DRC same day
- Fixed and stained for subsequent HCI

Experimental Workflow

- Cell line handling
- High-content imaging
- Image processing I – deconvolution
- Image processing II – quantitation

Cell line-specific etoposide dose response curves



Scan the QR to read more about our HCI assay services

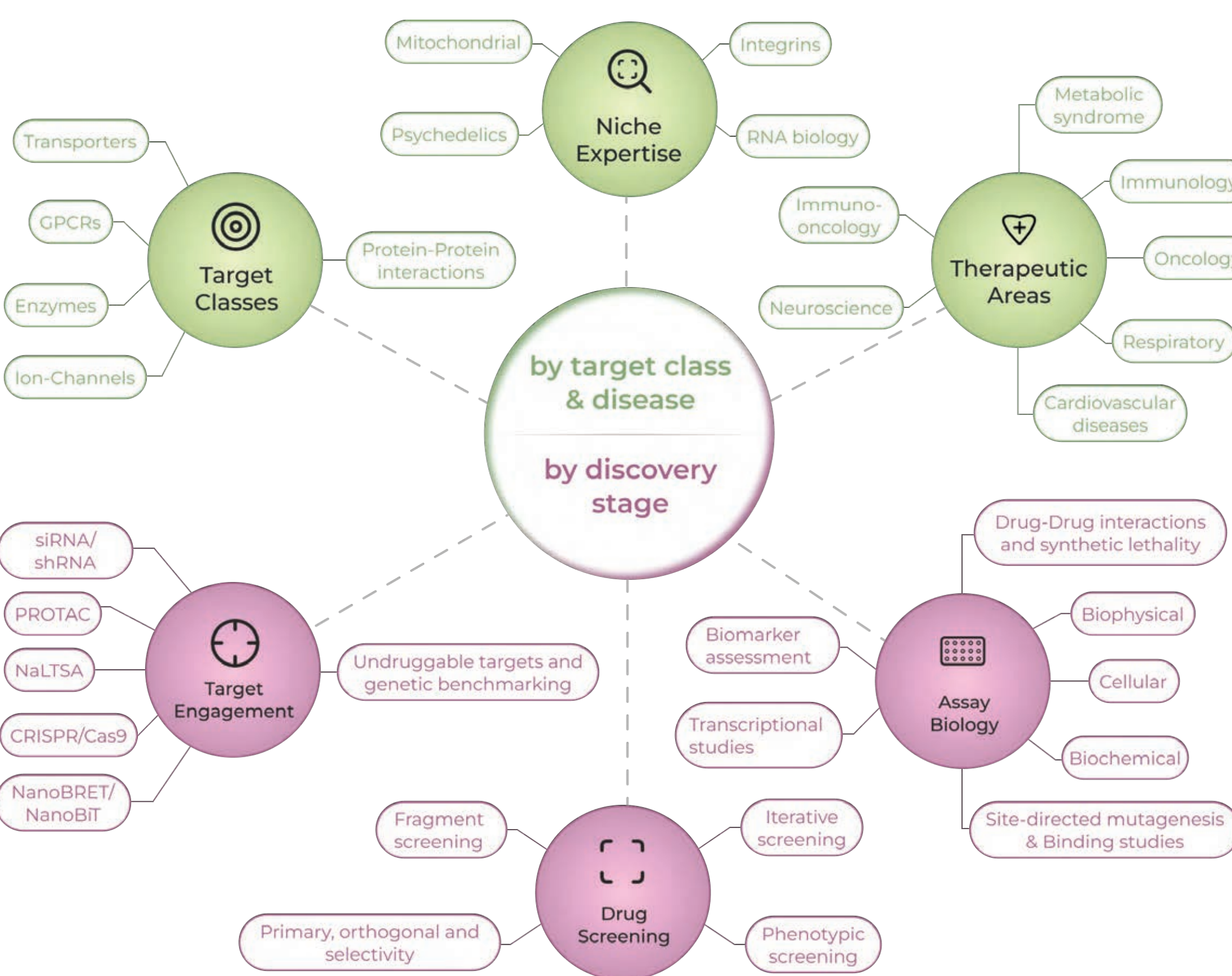
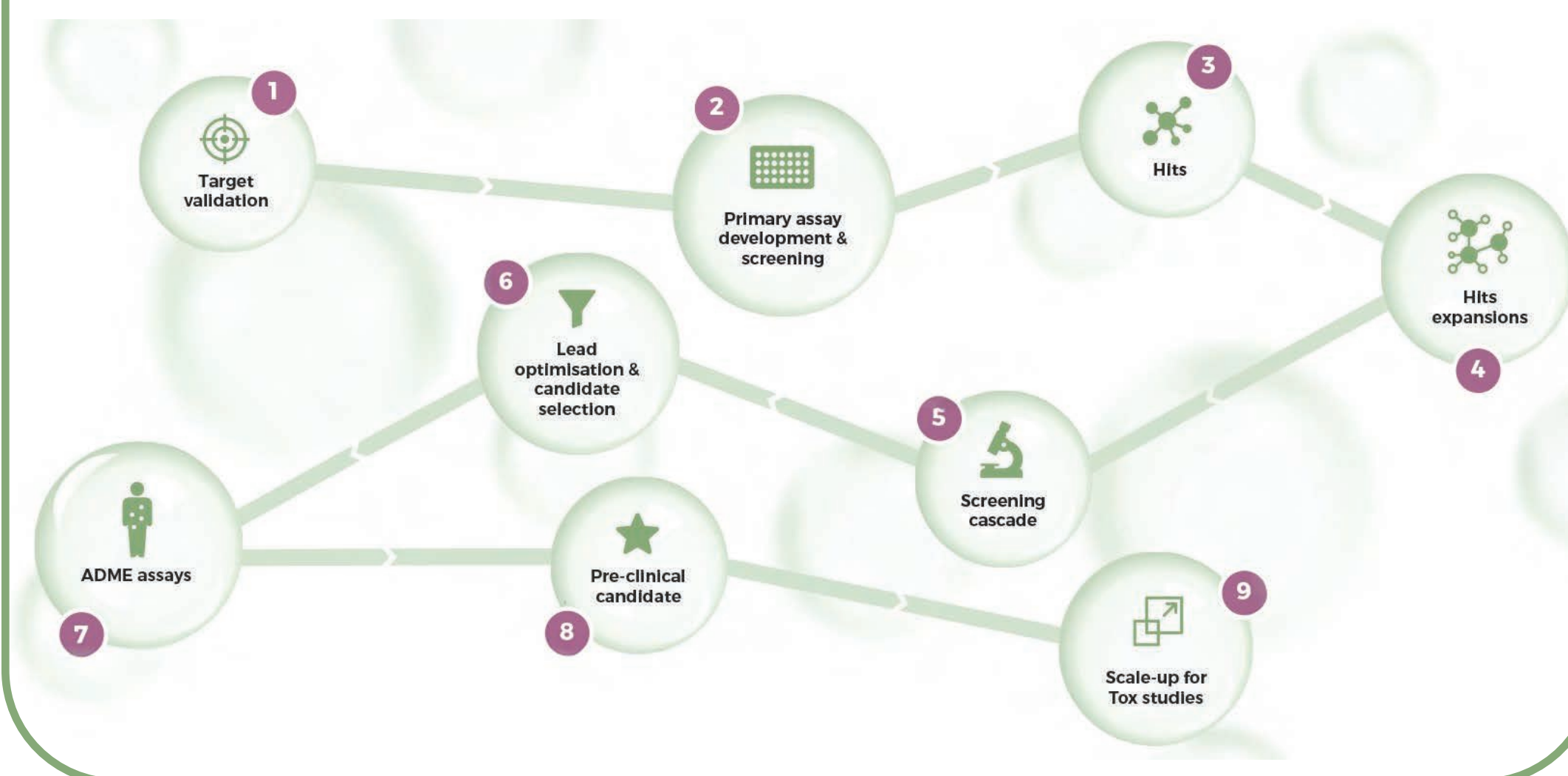


Integrated Drug Discovery (IDD)

o2h offers a comprehensive suite of R&D services to propel your drug discovery program from target validation to IND submission.

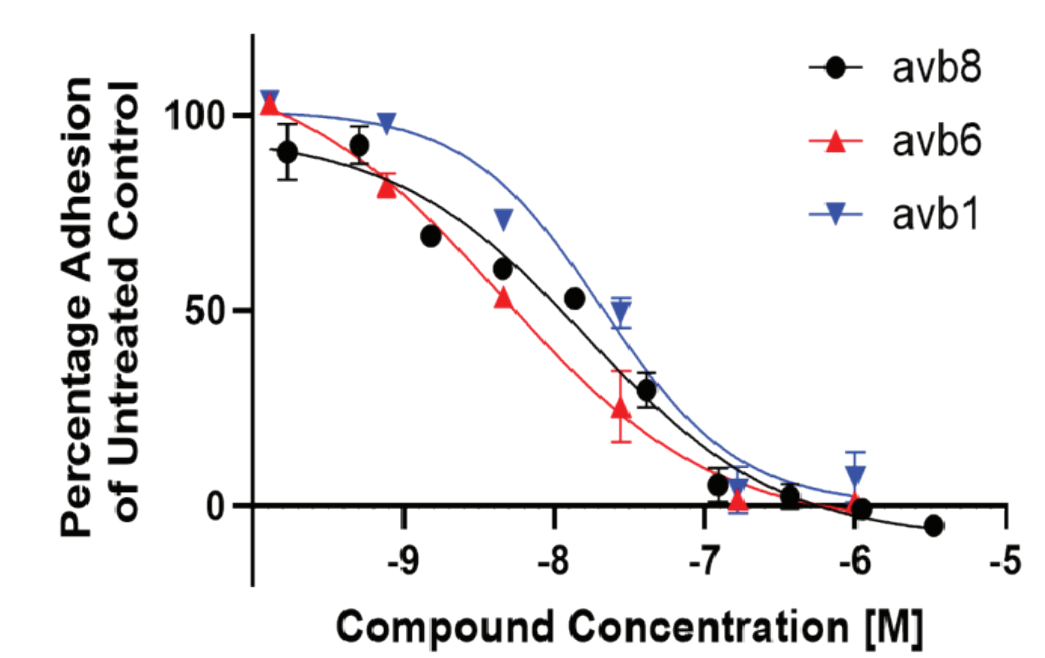
- Comprehensive Toolbox:** In-house expertise in chemistry, biology, ADME with advanced capabilities in SPR, and HCI.
- Therapeutic Foresight:** Specializing in cancer biology, immuno-oncology, metabolic disorders, and CNS diseases.

Scan the QR to read more about our IDD services



Integrin Biology

- Customizable platform to evaluate compound potency and specificity in cell adhesion assays targeting multiple integrins.
- Our assays investigate the inhibition or activation of integrin pairs—key drug targets for numerous diseases.
- Our custom cell lines enable precise evaluation of differential inhibition across integrin pairs, simplifying specificity testing.
- In-depth compound characterization through other bespoke cellular assays using flow cytometry and HCI, assessing activity in biological settings.

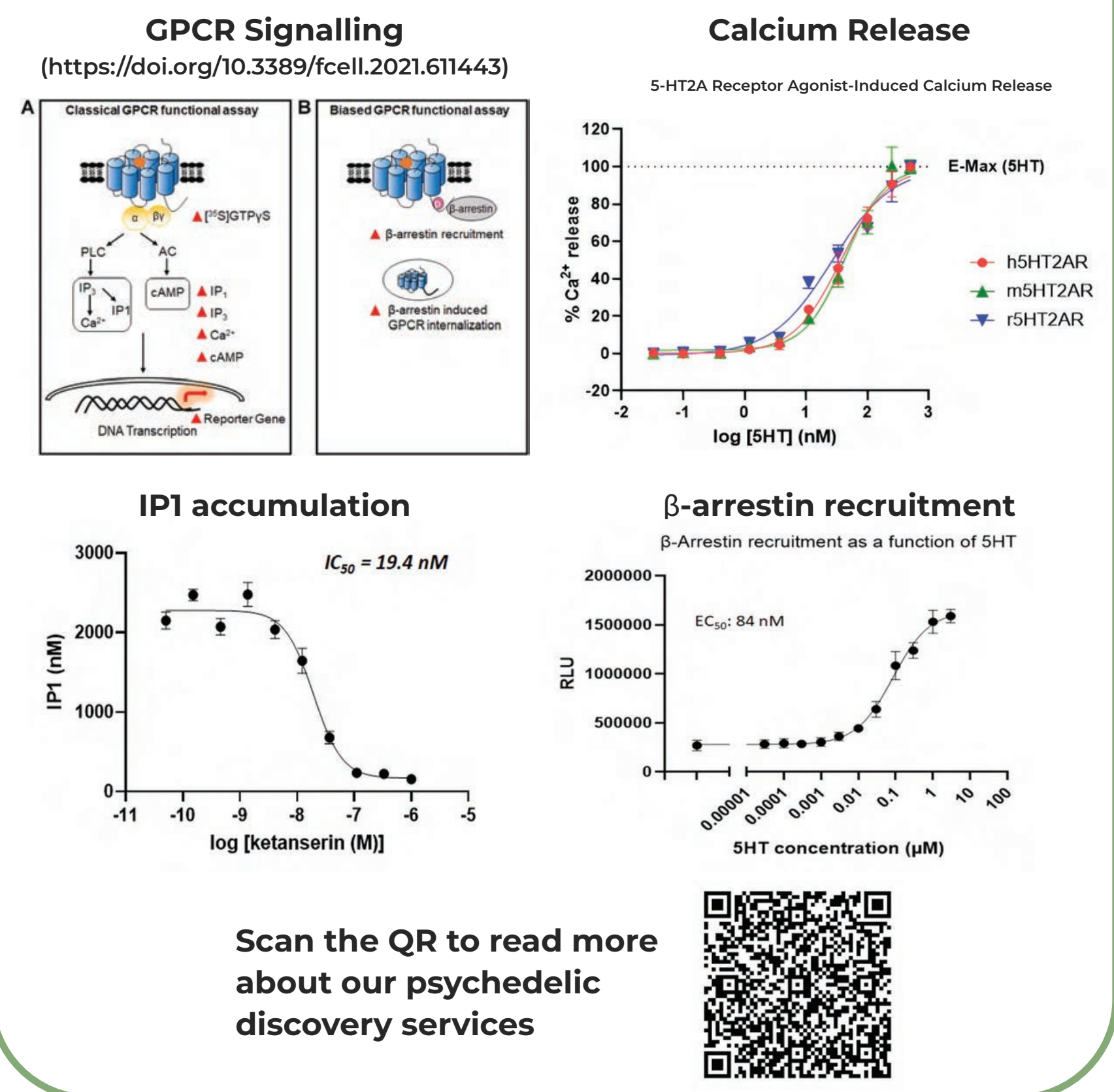


Scan the QR to read more about our integrin biology services



Psychedelics Discovery Services

- At o2h, we have developed and screened a series of 5-HT_{2A} small molecules with varying potencies towards Gq and β-arrestin-biased signalling, providing insights into 5-HT_{2A} receptor dynamics.
- These molecules serve as key tools for understanding specific intracellular responses, advancing drug discovery research.



Scan the QR to read more about our psychedelic discovery services

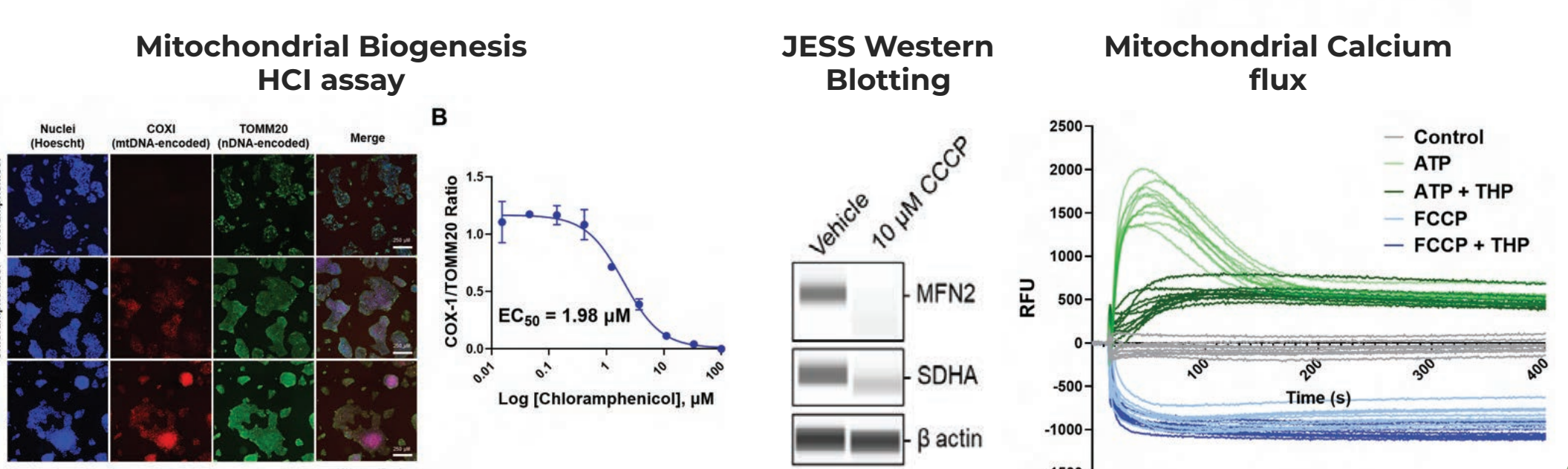
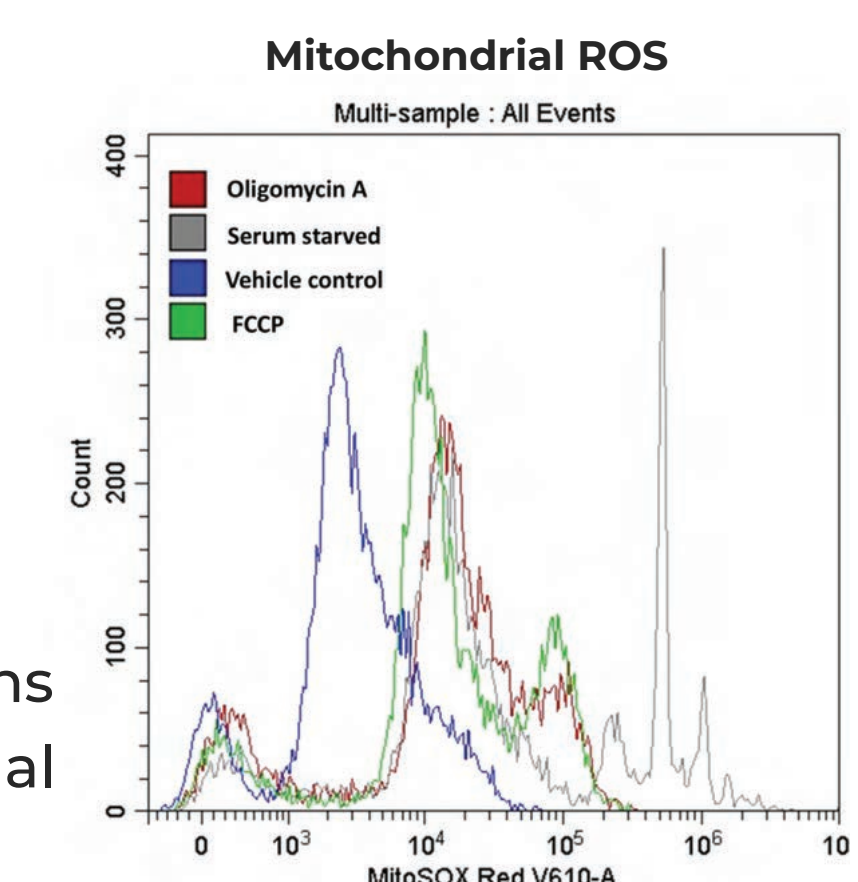


Mitochondrial Biology

o2h offers cutting-edge assays that detect and monitor changes in mitochondrial structure and function, helping researchers unravel the intricacies of these organelles and their impact on cellular health. Dysfunctional mitochondria are implicated in diseases such as Parkinson's, Alzheimer's, diabetes, and even aging.

Assay Services

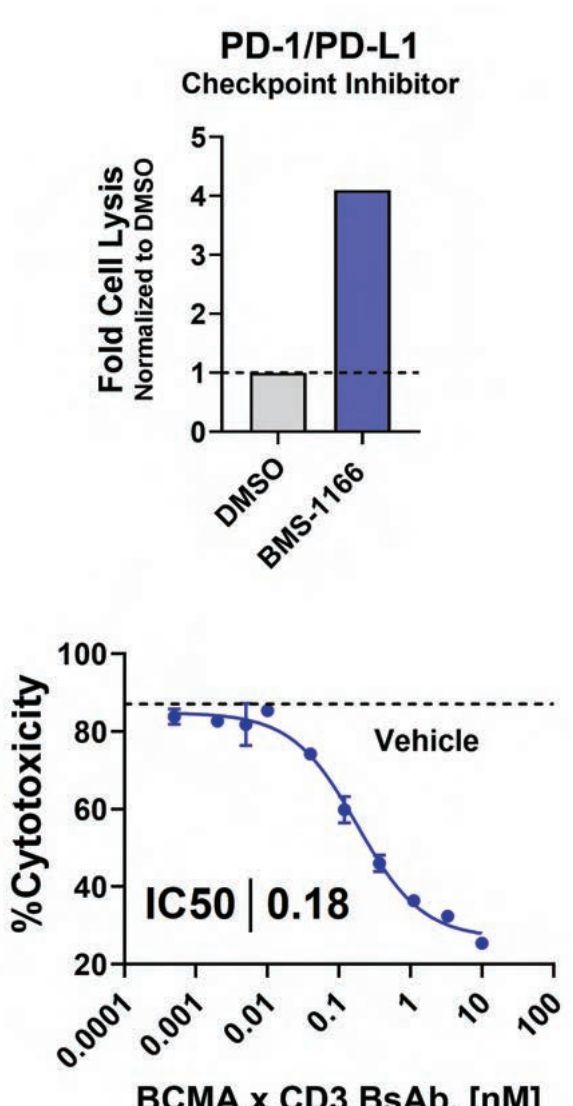
- Superoxide production using MitoSOX red dye – flow cytometry
- Mitochondrial Biogenesis or Degradation (Mitophagy) – HCI
- Mitochondrial Calcium uptake using RHOD-2 AM dye – FLIPR
- Jess-Based Western Blotting of proteins (SDHA, MFN2) involved in mitochondrial fission, fusion, and apoptosis



Immuno-oncology (IO)

o2h offers various IO research services for the phenotypic screening of novel immune therapeutics, which includes the following:

- PBMC isolation and immunophenotyping
- Receptor expression using FACS
- Co-culture of cancer cells with immune cells
- Cytotoxicity of immunotherapeutic (CFSE/7-AAD)

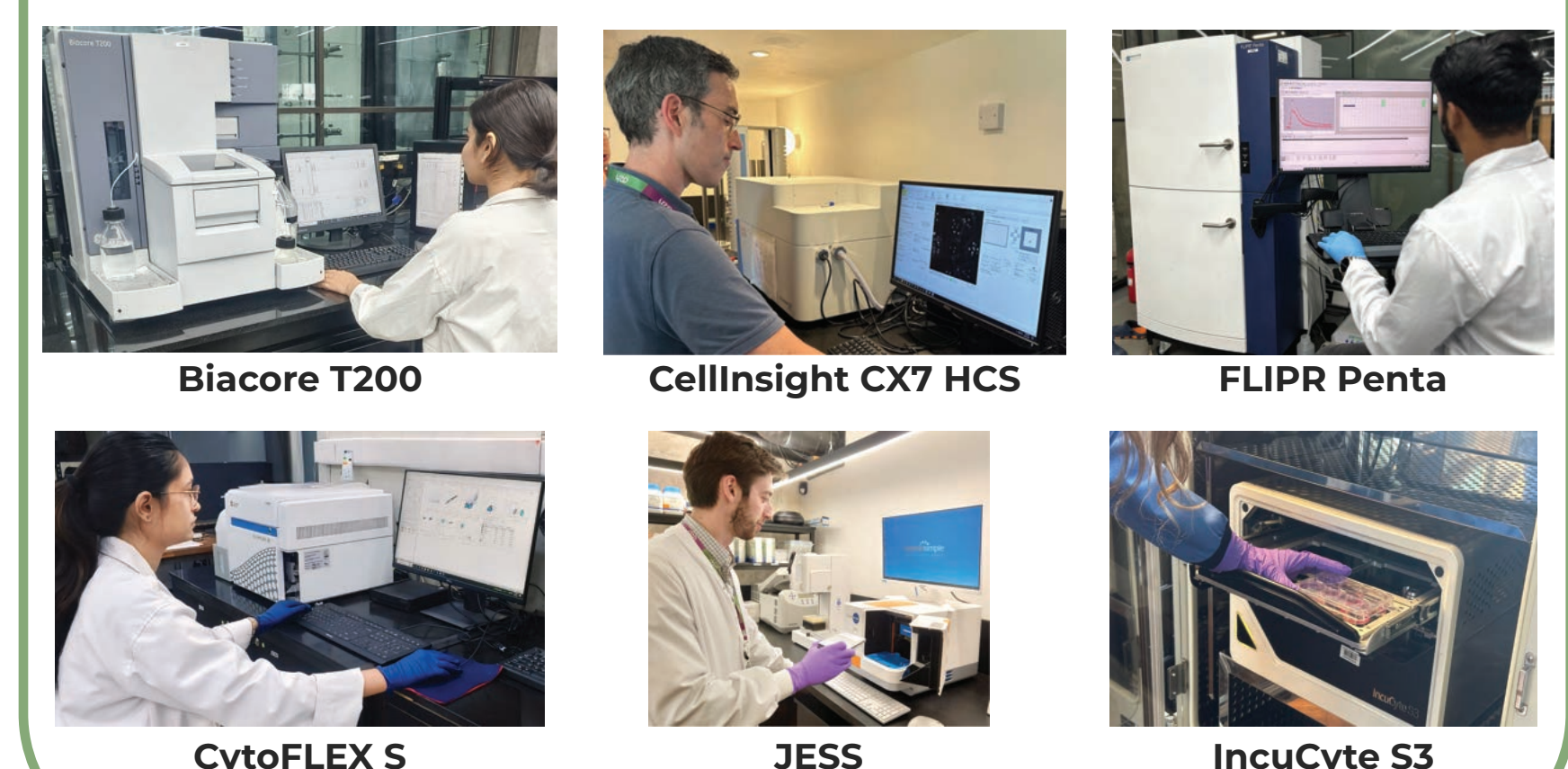


Scan the QR to read more about our IO Services



State-of-the-art Equipment

Our cutting-edge facilities are equipped with advanced instruments to ensure precision and efficiency in biology research.



Scan the QR to know more



o2h Biology Match Funding Award

From idea to milestone, start generating data on the bench



Match Funding of up to 50%



Highly Experienced Biologists



Comprehensive Project Management



Access to Cutting-edge Equipment Suite