

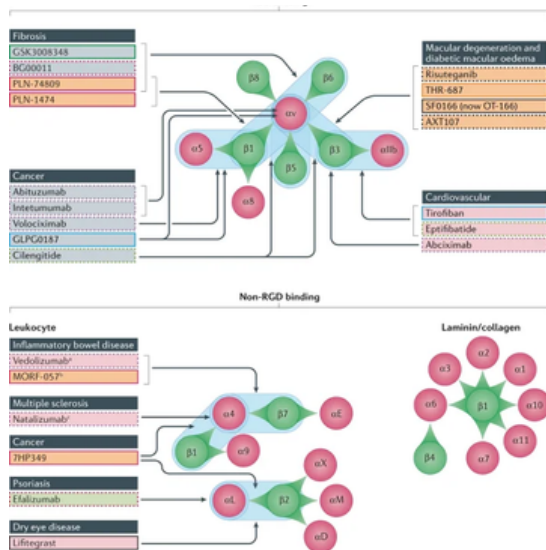
# Integrin Assay

## Decoding Cellular Interactions

### Integrin Biology

Integrins are heterodimeric cell surface receptors regulating cell morphology, proliferation, survival, and differentiation. Mutations or deregulated expressions in integrins are linked to various diseases. Each integrin has an  $\alpha$ -subunit and a  $\beta$ -subunit, with 18 and 8 variants respectively, forming 24 known heterodimers. They act as adhesion receptors, signaling in both directions across the plasma membrane.

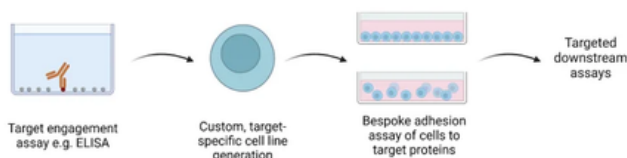
Integrins bind to diverse ligands and their tissue-specific expression and signaling pathways make them attractive drug targets. The RGD-binding family of integrins recognizes the Arg-Gly-Asp (RGD) motif in endogenous ligands and distinguishes between different RGD-containing ECM proteins, responding uniquely to each interaction.



(Image source – Nature Reviews, Drug Discovery: Vol 21, January 2022)

### Driving Drug Discovery Forward

With the breadth and complexity within the integrin family, only a small component of integrin biology is understood and requires further research to fill in the gaps. Therefore development and testing of improved molecules are required to further dissect these complexities which could lead to the successful generation of integrin-targeting drugs and in treating multiple diseases.



### Recent Breakthroughs

- Recent developments have revealed novel inhibitors targeting integrins  $\alpha\beta6$  and  $\alpha\beta1$
- These inhibitors are currently undergoing clinical evaluation for treating fibrotic diseases like idiopathic pulmonary fibrosis and nonalcoholic steatohepatitis
- Integrin inhibition has led to the development of several commercial medications
- Preclinical exploration in integrin inhibition is ongoing
- Since 2015, more than 130 clinical studies have investigated integrin-targeted therapeutics, highlighting their potential

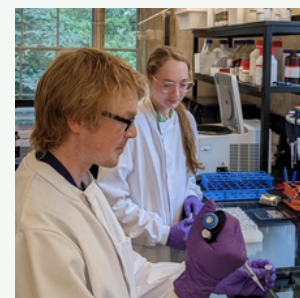
### o2h discovery: Role & Expertise

Our o2h scientists are well positioned to support our collaborators by utilising our extensive Integrated Drug Discovery (IDD) experience in both our India and UK sites. We can develop customizable assays for diverse target classes. Compounds can be profiled for their potency to efficacy translation in cellular assays for functional characterization and MOA.

### Biological Assays

We have successfully established biochemical and cell-based assays to assess target engagement of small molecules for different integrin targets. Using this knowledge and experience, we are able to offer a highly customisable platform where we can establish the potency of a compound in cell adhesion assays & ELISA against multiple integrin targets and determine specificity profiles.

Additionally, we are able to fully characterise these compounds in bespoke cellular assays using our flow cytometry & high-content imaging capabilities to determine their activity in a biological setting.



### Get in Touch:

To learn more about the o2h discovery Biology and assay development capabilities, scan the QR code or email us at [discovery@o2h.com](mailto:discovery@o2h.com)

