Alternative Methods to Increase PROTAC Screening Throughput

In drug discovery, the current gold standard method for screening Proteolysis-Targeting Chimeras (PROTACs) is immunoblotting. Western Blotting is an effective method for assessing the presence/absence of a target protein and can even be used semi-quantitatively. Next-generation methods, including ProteinSimple's Wes and Jess capillary-based immunoblotting systems, allow quantitation with enhanced consistency and reliability compared to conventional Western Blotting. This makes next-generation methods the better choice for PROTAC screening.

However, next-generation immunoblotting remains limited by throughput and is generally unable to generate dose-response analysis of new PROTACs without significant labour and time. In addition, the cost of consumables can be prohibitive. These factors have driven the search for alternative methods and such methods are presented here.

The methods shown, can utilise a 96-well format and screen multiple PROTACs in parallel as a first pass screen for hit identification. They can increase the throughput for PROTAC screening while limiting costs. This study compares the methods with Jess-based methods for PROTAC screening and hit identification.