BOC Sciences Launched Its PROTACs Technology Platform to Assist Drug Development

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Recently, BOC Sciences, a well known chemical supplier in New York, announced that its PROTACs technology platform can provide research tools for small molecules targeting non-proprietary drugs to assist drug development.

PROTAC (proteolysis-targeting chimera) is a heterobifunctional small molecule that consists of a linker and two warheads - one binds to the target protein, and the other recruits the E3 ligase. Empowered by this bifunctional characteristic, the disease-causing proteins can be ubiquitinated and degraded by the proteasome which will result in a return to normal physiological tissue. PROTAC provides a very promising and powerful method to overcome the current obstacles of drug discovery and tool development in biology.

In recent years, PROTACs technology has entered an unprecedented stage of development. This technology has absolute advantages because it can not only convert the undruggable into the druggable, but also solve the drug resistance problem of existing targets. PROTAC regulates protein function by degrading rather than inhibiting the target protein, thereby having higher sensitivity to drug-resistant targets. Compared with classic inhibitors, PROTAC has better selectivity.

The services provided by BOC Sciences cover all aspects of PROTAC development from ligand design to biological evaluation.

Ligand Design and Screening for E3 Ligase

E3 ligase can be recruited to tag the target protein for ubiquitination and degradation through the proteasome. By using small molecule ligands to recruit target proteins and E3 ligands, all PROTAC small molecules can achieve rapid target degradation and better cell permeability. The ligand design services

for E3 Ligase provided by BOC Science include rapid affinity identification of candidate ligands for E3 ligase, and optimization of ligands through structural modification to improve adverse stability, biodistribution and permeability in vivo.

Ligand Design for Target Protein

To develop an ideal PROTAC molecule with huge potential to treat diseases, the specificity and affinity of ligands for target disease-causing proteins are very important. With a comprehensive and advanced platform, we are confident in presenting a comprehensive set of services to develop an ideal PROTAC for worldwide clients. The ligand design may be inspired by the reported tight-binding interaction, transient binding interaction, ubiquitination propensity of the target protein.

PROTAC In Vitro Evaluation

Targeted protein degradation provides broad prospects for drug discovery. Once the compound is designed and synthesized, a series of in vitro evaluation analyses from drug administration to intracellular target degradation will be performed to verify the effectiveness of PROTAC in the drug development stage before clinical trials. PROTAC in vitro evaluation services provided by BOC Sciences include PROTAC Activity Assay, solubility and stability determination,E3 ubiquitin ligase activity assay, binding affinity measurement, live-cell assay, and degradation ability assay.

PROTAC In Vivo Evaluation

For drug discovery and development process, in vivo animal tests are very important and determinant if the candidate PROTACs can be investigated for clinical trials. We optimize PROTAC through animal experiments in vivo to ensure low toxicity and better ADME performance.

In addition to above services, BOC Sciences offers products required for PROTAC development, including E3 ligase ligand-linker conjugate, ligand for E3 ligase and target protein, PROTAC linker,

SNIPER, and ubiquitin ligases. For more information, please visit the website: https://protac.bocsci.com/.

About BOC Sciences

BOC Sciences has been closely involved with drug discovery, chemistry and life science by supplying a comprehensive collection of chemicals to researchers, such as inhibitors, metabolites, impurities and natural compounds. Meanwhile, it also provides a wide range of services through all stages of drug R&D to support the pharmaceutical industry, like custom synthesis of chemicals, isotope labeling, formulation service, antibody drug conjugates, chiral synthesis and resolution.