

Ubiquitination Compound Library

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Ubiquitination involves covalent attachment of ubiquitin, a small 8-kDa protein, to a substrate and results in recognition and shuttling of the substrate to the 26S proteasome complex for degradation. Ubiquitination, the structured degradation and turnover of cellular proteins, is regulated by the ubiquitin-proteasome system (UPS). The ubiquitination process is tightly controlled by three families of enzymes: ubiquitin-activating enzymes (E1s), ubiquitin-conjugating enzymes (E2s), and finally ubiquitin ligases (E3s). Ubiquitination affects cellular process (apoptosis, cell cycle, DNA damage repair, and membrane transportation, etc.) by regulating the degradation of proteins (via the proteasome and lysosome), coordinating the cellular localization of proteins, activating and inactivating proteins, and modulating protein-protein interactions. The ubiquitin pathway has been implicated in the pathogenesis of several diseases and genetic disorders: cancer, cardiovascular disease, and neurodegenerative disorders, etc. Recent advances in our understanding of the role and molecular mechanisms of UPS components in disease – mainly DUBs and E3 ligases, the development of high-quality chemical tools and novel inhibitors, as well as preclinical studies demonstrating chemical tractability and therapeutic potential – have dramatically taken the ubiquitin proteasome system from an improbable target class, to one of the most robust and exciting arenas for the discovery of novel drugs. TargetMol's Ubiquitination Compound Library collects xnum ubiquitination related small molecules, targeting proteasome, E1/E2/E3 Enzyme, DUB, p97, etc.
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Reference

Cells. 2022, 11(18): 2839.
Nature Communications. 2022, 13(1): 1-15..
Nature Communications. 2023, 14(1): 1020..
Nature Communications. 2023, 14(1): 2756..
Blood. 2021, 137(11): 1478-1490.
Nucleic

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