

Microtubule-Targeted 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	Microtubules (MTs) are cylindrical polymers of α- and β-tubulin heterodimers. These polymers are highly dynamic and their polymerization dynamics is tightly regulated through the binding of microtubule-associated proteins (MAPs). Microtubule polymerization and depolymerization dynamic drive chromosome congression and spindle formation during cell division, which are used to pull eukaryotic chromosomes apart. Microtubules are very important in a number of cellular processes, such as maintaining the structure of the cell, cell division, signaling transduction, transportation, etc. Microtubules have long been considered an ideal target for anticancer drugs because of the essential role they play in mitosis, forming the dynamic spindle apparatus. Microtubule-targeting anticancer drugs are among the most effective anticancer therapeutics used in the clinic today. Microtubule-targeting agents act primarily by altering MT dynamics. This interference with microtubule dynamics can have the effect of stopping a cell's cell cycle and can lead to programmed cell death or apoptosis. They are roughly classified into microtubule-stabilizing agents, such as taxanes (paclitaxel) or epothilones. They block dynamic instability by stabilizing GDP-bound tubulin in the microtubule to inhibit the mitosis and induce apoptosis; microtubule-destabilizing agents, such as vinca alkaloids, Nocodazole, combretastatin, and colchicine. TargetMol's Microtubule-targeted Compound Library collects xnum compounds targeting microtubules that can be used in microtubule-related mechanism study and drug development.
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Reference

Cell Stem Cell. 2022 Apr 29(4) 545-558.
Blood. 2021, 137(11): 1478-1490.
Nucleic Acids Research. 2021.
Nature Communications. 2023, 14(1): 7574.
Advanced Science. 2020, 7(16): 2000925.
Angewandte

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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