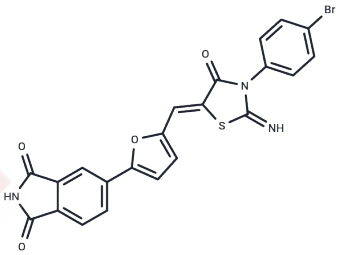
Data Sheet (Cat.No.T2065)

TargetMol

Bioymifi

Chemical Properties



CAS No. : 1420071-30-2

Formula: C22H12BrN3O4S

Molecular Weight: 494.32

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Bioymifi (DR5 Activator) is an effective activator of the TRAIL receptor DR5, binding to the extracellular domain (ECD) of DR5 with a Kd of 1.2 μM. Bioymifi can serve as a novel mimetic of TNF-related apoptosis-induced ligand (TRAIL), inducing DR5 aggregation as a sole inducer, and stimulating cell apoptosis.
Targets(IC50)	Apoptosis,TNF
In vitro	**METHODS**: Erythrocytes were treated with Bioymifi (10-100 μM) for 24 h. The hemolytic and bactericidal properties and potential molecular mechanisms of Bioymifi were characterized by flow cytometry. **RESULTS**: Bioymifi exerted a dose-responsive, calcium-independent hemolytic effect, reduced erythrocyte hemoglobin, significantly increased membrane-bound protein V, Fluo4, and DCF-positive cells, as well as a dual effect on forward and lateral light scatter. [1] **METHODS**: Neonatal rat ventricular myocytes (nrvm) were treated with Bioymifi (10 μM) for 24 h, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: The expression of DR5 in Bioymifi-treated nrvm was higher than that of NRVF. [2]
In vivo	**METHODS**: To investigate the role of DR5 activation in the heart, Bioymifi (5 mg/kg/d) micro-osmotic pump was administered to C57BL/6 mice once daily for two weeks. **RESULTS**: Administration of Bioymifi resulted in hypertrophy at the level of cardiac organs and cardiomyocytes, but did not affect cardiomyocyte death or cardiac fibrosis. [2]
Kinase Assay	Solubilized membranes from 3T3 Flk-1 cells are added to polystyrene ELISA plates that has been precoated with a monoclonal antibody that recognizes Flk-1. After an overnight incubation with lysate at 4°C, serial dilutions of SU5416 are added to the immunolocalized receptor. To induce autophosphorylation of the receptor, various concentrations of ATP are added to the ELISA plate wells containing serially diluted solutions of SU5416. The autophosphorylation is allowed to proceed for 60 min at room temperature and then stopped with EDTA. The amount of phosphotyrosine present on the Flk-1 receptors in the individual wells is determined by incubating the immunolocalized receptor with a biotinylated monoclonal antibody directed against phosphotyrosine. After removal of the unbound anti-phosphotyrosine antibody, avidin-conjugated horseradish peroxidase H is added to the wells. A stabilized form of 3,3′,5,5′ -tetramethyl benzidine dihydrochloride and Water2 is added to the wells. The color

Kinase Assay	readout of the assay is allowed to develop for 30 min, and the reaction is stopped with H2SO4. Parallel biochemical kinase assays are performed to measure autophosphorylation on EGFR and fibroblast growth factor receptor[1].
Cell Research	Dose-response curves of bioymifi and A2C2 in T98 g cells are plotted as a function of A2C2 or bioymifi concentration. Human glioblastoma (T98 g) cells are treated with various concentrations of A2C2 or bioymifi alone or in combination with 1 μM Smac mimetic (SM) for 48 h. The corresponding cell survival is normalized to the treatment without A2C2 or bioymifi.(Only for Reference)

Solubility Information

Solubility	DMSO: 7.5 mg/mL (15.17 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.023 mL	10.1149 mL	20.2298 mL
5 mM	0.4046 mL	2.023 mL	4.046 mL
10 mM	0.2023 mL	1.0115 mL	2.023 mL
50 mM	0.0405 mL	0.2023 mL	0.4046 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Alfhili MA,et al. Bioymifi, a novel mimetic of TNF-related apoptosis-induced ligand (TRAIL), stimulates eryptosis. Med Oncol. 2021 Oct 11; 38(12):138.

Tanner MA, et al. Death receptor 5 contributes to cardiomyocyte hypertrophy through epidermal growth factor receptor transactivation. J Mol Cell Cardiol. 2019 Nov; 136:1-14.