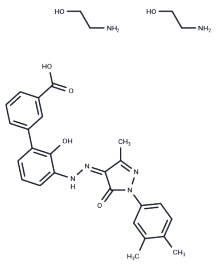
Data Sheet (Cat.No.T6825)

TargetMol

Eltrombopag Olamine

Chemical Properties



CAS No. : 496775-62-3

Formula: C29H36N6O6

Molecular Weight: 564.63

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	Eltrombopag Olamine (Eltrombopag diethanolamine salt) is an orally active small-molecule, nonpeptide thrombopoietin receptor agonist that stimulates megakaryopoiesis. It binds to and activates the transmembrane domain of the platelet thrombopoietin receptor (TPO-R or CD110), promoting the proliferation and differentiation of megakaryocytic cells and enhancing platelet production.
Targets(IC50)	Apoptosis,Antibacterial,Thrombin,Thrombopoietin Receptor
In vitro	Eltrombopag demonstrates a half maximal effective concentration (EC50) of 0.27 μM in murine BAF3 cells transfected with the luciferase reporter gene under direction of the STAT-activated IRF-1 promoter and human TpoR (BAF3/IRF-1/hTpoR). Eltrombopag activates the receptor by association with metal ions (i.e., Zn2+) and specific amino acids within the transmembrane and juxtamembrane domains of the TpoR. Eltrombopag (30 μM) results in activation of STAT5 in N2C-Tpo cells, as detected with an antiphospho-STAT5 antibody on Western blots. Eltrombopag stimulates proliferation after a 2-day incubation with an EC50 of 0.03 μM in a BrdU assay conducted in BAF3/hTpoR cells. Eltrombopag also induces differentiation of hematopoietic stem cells into committed megakaryocyte progenitor cells. Eltrombopag increases the differentiation of bone marrow CD34+ cells into CD41+ megakaryocytes in a dose-dependent manner with an EC50 of 0.1 μM. [1] Eltrombopag inhibits N2C-Tpo cell and HEL92.1.7 cell proliferating with IC50 of 20.7 μg/mL and 2.3 μg/mL. [2] Eltrombopag (20 μg/mL) leads to a decreased cell division rate, a block in G(1) phase of cell cycle, and increased differentiation in human and murine leukemia cells. Eltrombopag (5 μg/mL) shows clear signs of differentiation, significant changes in the organization of the nuclear contents, and an increase in the cytoplasm/nucleus ratio in HL60 cells. Eltrombopag (5 μg/mL) causes an increase in CD11b, which is consistent with a premacrophage state in U937 cells, and also causes an increase in CD11b in URE cells. Eltrombopag leads to a reduction in free intracellular iron in leukemic cells in a dose-dependent manner in HL60 cells. [3]
In vivo	Eltrombopag (10 mg/kg per day) increases platelet counts over twofold approximately 1 week after the last dose for one chimpanzee and approximately 1.5-fold for the other two chimpanzees. [1] Eltrombopag (1 mg/mL) prolongs survival in mouse models of leukemia. [3]
Kinase Assay	The high-performance liquid chromatography (HPLC) analyses are carried out using a Fast Acid Column (100×7.8 mm) and a HPX-87H Ion Exclusion Column (300 mm×7.8 mm)

Kinase Assay	in series with 2.5 mM H_2SO_4 in water as the mobile phase at a flow rate of 0.3 mL/min, at 55°C. This method enabled quantification of D-glucose, ethanol, glycerol, D-xylulose, Ribitol, and xylitol. D-ribose, D-ribulose, and D-arabitol coeluted on the Aminex HPX-87H column. The CarboPac MA-1 column of Dionex ICS-3000 is used to analyze representative culture supernatant samples for the presence of arabitol and xylitol. Samples are run at column temperature of 30°C with 480 mM NaOH at flow rate 0.4 mL/min. The CarboPac MA-1 column separated D-arabitol from D-ribose and D-ribulose, but the alkaline conditions degraded D-ribulose interfering with the quantification of D-ribose.Yeast cells are disrupted with glass beads in 100 mM sodium phosphate buffer pH 7.0 containing phenylmethylsulfonyl fluoride and pepstatin A in final concentrations of 0.17 mg/mL and 0.01 mg/mL, respectively.The activity of NAD+-dependent Gdh2p is measured in a reaction buffer of 0.5 M triethanol amine pH 7.7 and 2 mM NADH. After addition of the cell lysate, the reaction is started by adding a mixture of α-ketoglutarate (100 mM) and NH_4Cl (200 mM) to a final concentration of 2.4 mM and 4.9 mM, respectively. The GapB activity is measured. Shortly, the reaction mixture is 500 mM triethanol amine pH 7.8, 1 mM ATP, 2 mM $MgCl_2$, 200 µM NADPH, and 10 µg/mL of phosphoglycerate kinase. 3-phosphoglycerate is added to a final concentration of 5 mM to start the reaction. Activity measurements are performed with a Cobas Mira Plus automated analyzer[2].

Solubility Information

Solubility	DMSO: 62.5 mg/mL (110.69 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H_2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (1.77 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7711 mL	8.8554 mL	17.7107 mL
5 mM	0.3542 mL	1.7711 mL	3.5421 mL
10 mM	0.1771 mL	0.8855 mL	1.7711 mL
50 mM	0.0354 mL	0.1771 mL	0.3542 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

Erickson-Miller CL, et al. Stem Cells, 2009, 27(2), 424-430.
Erickson-Miller CL, et al. Leuk Res, 2010, 34(9), 1224-1231.
Roth M, et al. Blood, 2012, 120(2), 386-394.

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