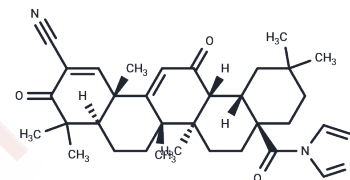


CDDO-Im

Chemical Properties

CAS No. : 443104-02-7
 Formula: C₃₄H₄₃N₃O₃
 Molecular Weight: 541.72
 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	CDDO-Im (TP-235) is an activator of Nrf2 and PPAR (Kis: 232/344 nM for PPAR α /PPAR γ).
Targets(IC50)	Ferroptosis, Nrf2, PPAR
In vitro	CDDO-Im effectively suppresses the proliferation of human leukemia and breast cancer cell lines (IC ₅₀ approximately 10-30 nM). In U937 leukemia cells, it induces monocytic differentiation, evidenced by increased CD11b and CD36 expression [1]. CDDO-Im treatment causes G2/M-phase cell cycle arrest and apoptosis in triple-negative breast cancer cell lines SUM159 and MDA-MB-231, significantly inhibiting CD24 ⁻ /EpCAM ⁺ cells in SUM159 tumorspheres. It also decreases sphere-forming efficiency and size in both primary and secondary cultures [2]. Moreover, CDDO-Im elevates Nrf2 protein levels, which increases the expression of antioxidant and detoxification genes regulated by Nrf2 [3].
In vivo	CDDO-Im exhibits strong inhibition of de novo inducible nitric oxide synthase (iNOS) expression in primary mouse macrophages. Additionally, it effectively suppresses the proliferation of B16 murine melanoma and L1210 murine leukemia cells in vivo. Administering 10 nM (5.4 μ g) of CDDO-Im significantly impedes the induction of iNOS by IFN- γ , while a dose as low as 1 nmol (0.54 μ g) of CDDO-Im shows partial effectiveness [1].
Cell Research	CDDO-Im is dissolved in DMSO. SUM159 and MDA-MB-231 cells are seeded into each well of 96-well plates (1,000 cell/well) and treated the next day with vehicle control or CDDO-Im (1, 10, 50, 100 and 200 nM) for given incubation time. The absorbance is measured with a spectrophotometer to determine the cell proliferation rate [2].
Animal Research	Mice are injected i.p. with thioglycollate, and the resulting resident peritoneal macrophages are activated 3 days later with an i.p. injection of IFN- γ . CDDO and CDDO-Im are injected i.p. 30 min after IFN- γ . Macrophages are harvested 10 h later, cultured for 12 h, and then assayed for expression of iNOS protein and production of nitric oxide (NO) [1].

Solubility Information

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Solubility	DMSO: 40 mg/mL (73.84 mM), Sonication is recommended. H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (3.69 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.846 mL	9.2299 mL	18.4597 mL
5 mM	0.3692 mL	1.846 mL	3.6919 mL
10 mM	0.1846 mL	0.923 mL	1.846 mL
50 mM	0.0369 mL	0.1846 mL	0.3692 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

Place AE, et al. The novel synthetic triterpenoid, CDDO-imidazolide, inhibits inflammatory response and tumor growth in vivo. Clin Cancer Res. 2003 Jul;9(7):2798-806.

So JY, et al. A synthetic triterpenoid CDDO-Im inhibits tumorsphere formation by regulating stem cell signaling pathways in triple-negative breast cancer. PLoS One. 2014 Sep 17;9(9):e107616.

Liby K, et al. The synthetic triterpenoids, CDDO and CDDO-imidazolide, are potent inducers of heme oxygenase-1 and Nrf2/ARE signaling. Cancer Res. 2005 Jun 1;65(11):4789-98.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel: 781-999-4286 E_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481