

Product Datasheet

Dendrogenin A (orb1980038)

Catalog Number	orb1980038
Category	Small Molecules
Description	Dendrogenin A (DDA) is a compound acting as a selective liver X receptor (LXR) modulator, cholesterol epoxide hydrolase inhibitor ($K_i = 120$ nM), and a metabolic product of cholesterol, originating from 5,6α-epoxy cholesterol through histamine conjugation via DDA synthase. This compound is present in non-cancerous human mammary epithelial cells and melanocytes, but absent or minimally present in various breast carcinoma, melanoma cells, and isolated human breast tumor tissues. DDA impedes the activation of LXRβ and LXRα induced by 22(R)-hydroxy cholesterol (IC_{50}s = 76 and 362 nM, respectively), yet it also functions as a partial LXR agonist, boosting the protein levels of Nur77, NOR-1, LC3-I, and LC3-II in B16/F10 murine melanoma cells. It shows a preference for LXRα and LXRβ modulation while displaying selectivity over other receptors including pregnane X receptor (PXR), and various others at a concentration of 2.5 μM. Moreover, DDA enhances LC3-II protein levels in cancer cells and prompts autophagic cell death at specific concentrations. Notably, DDA (0.37 μg/kg) has been shown to diminish tumor growth in melanoma and mammary cancer murine models and promotes cancer cell differentiation both in vitro and in vivo.
Target	Liver X Receptor,Others
MW	513.80
CAS Number	1191043-85-2
Formula	C ₃₂ H ₅₅ N ₃ O ₂
SMILES	<chem>C[C@@]([C@@]1(C2)O)(CC[C@@H]2O)[C@](CC3)([H])[C@](C[C@H]1NCCC4=CN=CN4)([H])[C@@](CC[C@]5([H])[C@H](C)CCCC(C)C)([H])[C@]35C</chem>
Storage	-20°C

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Note

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