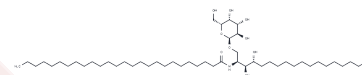


α -Galactosylceramide

Chemical Properties

CAS No. :	158021-47-7
Formula:	C50H99NO9
Molecular Weight:	858.32
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	α -Galactosylceramide (KRN7000) is a synthetic glycolipid with antitumoral and immunostimulatory and is a very potent NKT cell agonist and binds effectively to CD1d. The complex of α -Galactosylceramide and CD1d can bind to the T cell antigen receptor of NKT cells.
Targets(IC50)	Others, Interleukin
In vitro	Stimulation of activated V α 24+ NKT cell cultures with α -Galactosylceramide-pulsed monocyte-derived dendritic cells (Mo-DC) has antiproliferative activity against melanoma cells. Antiproliferative effects of V α 24+ NKT cells stimulated by α -Galactosylceramide-pulsed Mo-DCs via soluble mediators have antitumor activity against human melanoma. This effect is mainly due to the release of IFN- γ and, to a lesser extent, IL-12. Other cytokines, including IL-4 and IL-10, are released, but these cytokines have less antiproliferative effects [2].
In vivo	α -Galactosylceramide treatment prevents spontaneous, oncogenic, or oncogene-induced primary tumor formation in mice. Consistent with a major role of IFN- γ in NKT cell-mediated tumor responses, the C-glycoside analog of α -Galactosylceramide, which preferentially stimulates IFN- γ production, was even more effective than α -galactose in preventing B16 melanoma metastasis. Ceramides are more effective [1]. α -Galactosylceramide showed potent antitumor activity and stimulated lymphocyte proliferation (LP) in mouse allogeneic mixed lymphocyte reaction (MLR) [4].

Solubility Information

Solubility	DMSO: 1 mg/mL (1.17 mM), Sonication and heating to 80°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1651 mL	5.8253 mL	11.6507 mL
5 mM	0.233 mL	1.1651 mL	2.3301 mL
10 mM	0.1165 mL	0.5825 mL	1.1651 mL
50 mM	0.0233 mL	0.1165 mL	0.233 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

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Morita M, et al. Practical Total Synthesis of (2S,3S,4R)-1-O-(α -D-Galactopyranosyl)-N-hexacosanoyl-2-amino-1,3,4-octadecanetriol, the Antitumorial and Immunostimulatory α -Galactosylceramide, KRN7000. *Biosci Biotechnol Biochem.* 1996 Jan;60(2):288-92.

Kikuchi A, et al. In vitro anti-tumour activity of alpha-galactosylceramide-stimulated human invariant Valpha24+NKT cells against melanoma. *Br J Cancer.* 2001 Sep 1;85(5):741-6.

Masahiro Morita, et al. Structure-Activity Relationship of .alpha.-Galactosylceramides against B16-Bearing Mice. *J. Med. Chem.* 1995, 38, 12, 2176-2187.

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