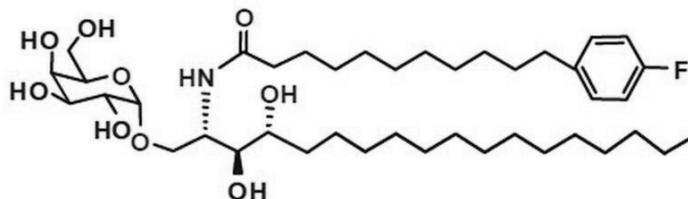


**Catalog Number** : 7DW8-5

**Lot Number** : 12J-A

**Size** : 1mg

**Chemical structure**



**Chemical name** :

[(2S, 3S, 4R)-1-O-( $\alpha$ -D-galactopyranosyl)-N-(11-(4-fluorophenyl)undecanoyl)-2-amino-1,3,4-octadecanetriol]

**Molecular formula** : C<sub>41</sub>H<sub>72</sub>FNO<sub>9</sub>

**Molecular weight** : 742.00

**Purity** : 98% (HPLC Area %)

**Endotoxin** : <100 EU/mg

**Appearance** : White to off-white powder with no visible contamination.

**Solubility** 7DW8-5 is practically insoluble in water, methanol or ethanol. 7DW8-5 is soluble in dimethyl sulfoxide (DMSO). The solutions in phosphate buffered saline (PBS) with 10% Tween 20 or 80 remained clear at 4°C for 7 days. The solution in PBS with 5% Tween 80 remained clear at 4 °C for 5 days. After more than 20 days at 4°C the samples became gel-like substance except the solution in PBS with 10% Tween 80 which remained clear solution with some floats.

**Storage** Short term storage +4°C, Long term storage -20°C

**Shipping** **Shipped on Blue ice**

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**Warning** Research use only. Not for use in humans.

## **Background**

There are a number of glycolipids synthesized, some of which are analogs of  $\alpha$ -galactosyl ceramide ( $\alpha$ -Gal-Cer), a marine sponge lipid that is the most extensively studied CD1d ligand to date. These compounds were tested for their ability to stimulate human invariant natural killer T (iNKT) cell lines, secretion of key cytokines such as IFN-g and IL-12, and activate autologous dendritic cells, as well as binding to CD1d and the invariant T-cell receptor. A lead compound, 7DW8-5, emerged from these studies and this glycolipid exhibits a stronger adjuvant effect than  $\alpha$ -Gal-Cer in various HIV vaccine platforms in mice. 7DW8-5 also provides a protective adjuvant effect with a candidate malaria vaccine when tested in mice infected with malaria parasites.

While the majority of the studies performed focus on the potential of the glycolipids as a vaccine adjuvant, it is foreseeable that the compounds could also be used as a potential immunotherapeutic to treat cancer, infectious diseases, and autoimmune diseases.

## **References**

- 1) Li X, Fujio M, Imamura M, Wu D, Vasan S, Wong C-H, Ho DD, Tsuji M. 2010. Design of a novel CD1d-binding NKT cell ligand as a vaccine adjuvant. Proc. Natl. Acad. Sci. USA. 107: 13010-13015.
- 2) Padte NN, Li X, Tsuji M, Vasan S. 2011. Clinical Development of a Novel CD1d-binding NKT Cell Ligand as a Vaccine Adjuvant. Clin. Immunol. 140: 142-151.