KRN7000

MHC ligand

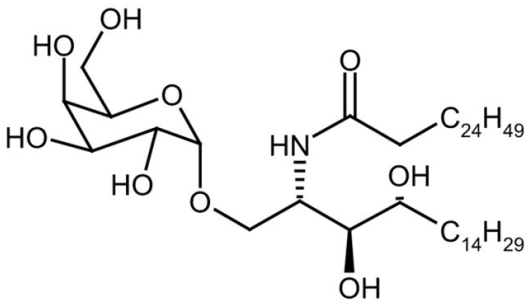
KRN7000 is a synthetic analog of α-galactosylceramide and the marine natural product agelasphin. It is a specific ligand for human and mouse NKT cells and remains the best studied ligand of the lipid-binding MHC class I-like protein CD1d. It protects against LPS-induced shock and displays potent antitumor activity in various *in vivo* models.

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BML-SL232-1000	1mg
BML-SL232-0100	100µg

Manuals, SDS & CofA View Online »


OH
HO
O
HO
HO
O
HN
O
$C_{24}H_{49}$
OH
$C_{14}H_{29}$
OH

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Store solutions at -20°C for up to 3 months.
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	α-Galactosylceramide, α-Gal-Cer, (2S,3S,4R)-1-O-(α-D-Galactosyl)-N-hexacosanoyl-2-amino-1,3,4-octadecanetriol
Appearance	White solid.
CAS	158021-47-7
Couple Target	MHC
Couple Type	Ligand
Formula	$C_{50}H_{99}NO_9$
MW	858.3
Purity	≥98% (TLC)

Solubility

KRN7000 is inherently an extremely hydrophobic molecule, therefore, almost all the methods for solubilizing this material in primarily aqueous media will contain at least some detergent. For cell culture or other in vivo models, it is recommended that the KRN7000 be initially dissolved in a 2:1 mixture of chloroform and methanol. This solution should then be aliquoted into amounts suitable for a day's use into glass vials. After aliquoting, the chloroform/methanol solvent can be evaporated off under a stream of nitrogen or argon. We recommend turning the tube during this process to try to get the KRN7000 deposited in as thin a film as possible. The thinner the KRN7000 layer is, the easier it will be to reconstitute it. These dry aliquots can then be stored under nitrogen or argon at -20°C for several months or until needed.On the day of the experiment, use a dried aliquot and reconstitute it using any of the options listed below: PBS with 0.5% Tween-20. Note: It will be necessary to warm at 37°C and sonicate for 2 hours or more in a water bath sonicator in order to get the material to dissolve. Heating and sonication should be done immediately prior to every use. 5.6% sucrose with 0.75% L-histidine and 0.5% Tween-20. Heating to 80°C for several minutes will be necessary with this solvent system. 100% DMSO (anhydrous). It is critical that the DMSO be completely anhydrous. Heating to 80°C may be necessary to get the KRN7000 to completely dissolve. Please note: while this method will produce a true clear solution in DMSO, the KRN7000 will be very likely to precipitate out as soon as the DMSO is diluted into aqueous media. It is recommended that the aqueous media the DMSO stock solution will be diluted in should contain 10% serum, or BSA and that the DMSO stock solution be diluted no more than 1/100. Depending upon the make-up of the aqueous buffer, there may well still be a precipitate, however the precipitate should eventually disappear with warming and repeated vortexing or sonication in a water bath sonicator. This may take some time and will likely need to be repeated each time an aliquot is thawed for use.Depending upon the solvent system used and the final concentration of the KRN7000, the results may be either a true clear solution or a somewhat cloudy suspension. The cloudy suspensions are not a problem, and will work fine when treating cells, just make sure they are mixed well immediately before use.

Source

Synthetic.

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