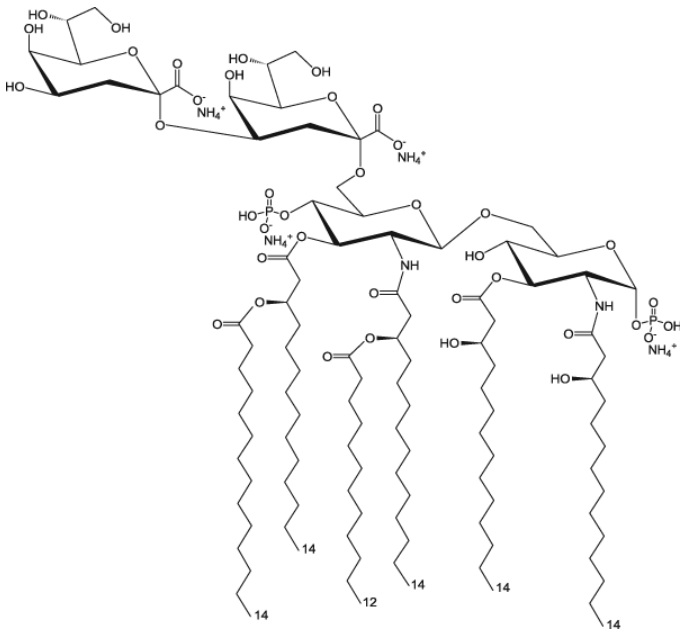
Technical Data Sheet

Di[3-deoxy-D-manno-octulosonyl]-lipid A (ammonium salt)

Catalog Number	699500
Purity	>95% by HPLC
CAS	
Synonyms	Kdo_2-Lipid A; Lipid A with 3-deoxy-D-*manno*-octulosonic acid (Kdo) disaccharide attached
Molec. Formula	$C_{110}H_{214}N_6O_{39}P_2$
MW	2306.84
Exact Mass	2305.442
Percent composition	C 57.27% H 9.35% N 3.64% O 27.05% P 2.69%
Physical state	Powder
Transition temp.	No data
CMC	No data
PKA	No data
TLC mobile phase	C:M:W*, 65:35:8, v/v
Stability	Store in <-20°C freezer for up to six months
Solubility	Soluble in PBS
Web link	699500



*chloroform:methanol:water

Description:

Kdo_2-Lipid A is a natural endotoxin. Kdo_2-Lipid A is a new preparation of the saccharolipid glycan that is a nearly homogenous lipopolysaccharide (LPS) substructure with endotoxin activity equal to that of native LPS (Dennis et al, 2005). The advantage of Kdo_2-Lipid A over LPS is that it is a reproducible, defined natural product, and it can be detected by ESI/MS at the low concentrations used to stimulate animal cells. One biological importance of Kdo_2-lipid A lies in its activation of the inflammatory response in innate immunity (Allegood et al, 2007; Wei et al, 2007; Sasaki et al, 2008; Wiesner et al, 2010). The purity of Kdo_2-Lipid A should also facilitate the structural analysis of its complexes with signaling receptors, such as TLR-4/MD2 (Raetz et al, 2006; Sasaki et al, 2007). Recent animal studies are examining how Kdo_2-Lipid A can induce mastitis and its involvement in animal models of endotoxemia (Nacira et al, 2008; Gu et al, 2009; Yajima et al, 2009) and atherosclerosis (Wiesner et al, 2010).

Product use:

Kdo_2-Lipid A should be stored at <-20°C. For use in cell culture, Kdo_2-Lipid A can be dissolved in sterile dPBS at 1 mg/mL by sonication. Aliquots can be prepared at a 100 µg/mL dilution for a final concentration of 100 ng/mL in the cell culture medium (Raetz et al, 2006). For more cell and solution use, see http://www.lipidmaps.org/protocols/index.html

References:

• Raetz CRH et al (2006) Purification and Properties of *Escherichia coli* Kdo_2-Lipid A, a Defined Endotoxin that Activates Macrophages via TLR-4. J. Lipid Res. 47(5):1097-111. Epub 2006 Feb 14.

• Additional references for this product can be found on the reference and animal studies tabs for 699500 at avantilipids.com

Related Products:

Monophosphoryl Lipid A (Synthetic)
Lipid A Detoxified (*Salmonella Minnesota R595*)

MSDS: see www.avantilipids.com for product number 699500

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