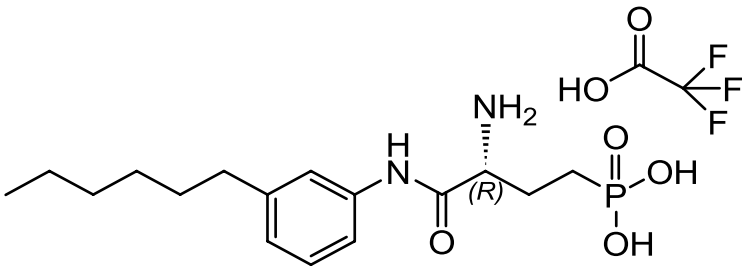
Technical Data Sheet

(R)-3-Amino-(3-hexylphenylamino)-4-oxobutylphosphonic acid (TFA salt) (W146)

Catalog Number	857390	**Physical state**	Powder
Purity	> 99%	**Transition temp.**	No data
CAS		**CMC**	No data
Synonyms	W146; $S1P_1$ Antagonist	**pK_a**	No data
Molec. Formula	$C_{18}H_{28}F_3N_2O_6P$	**TLC mobile phase**	C:M:W*, 65:35:8, v/v
MW	456.394	**Exact Mass**	456.164
Percent composition	C 47.37% H 6.18% F 12,49% N 6.14% O 21,03% P 6.79%		
Stability	Store in <-20°C freezer for one year		
Solubility	See note below in Product Use section		
Web link	857390		

* chloroform:methanol:water



Description:

W146 is a $S1P_1$ selective antagonist. Sphingosine-1-phosphate (S1P) is a signaling lysophospholipid which regulates heart rate, vascular and stromal barrier integrity and lymphocyte egress (Sanna *et al*, 2006). S1P receptors have been implicated in such various functions as prevention of transplant rejection, treatment of multiple sclerosis and adult respiratory distress syndrome. The $S1P_1$ receptor is found in endothelial, cardiac and blood cells. Eliminating $S1P_1$ receptors result in embryonic lethal animals, underscoring their importance. $S1P_1$ receptors are essential for lymphocyte trafficking and phenotype (Sanna *et al*, 2006). The importance of $S1P_1$ receptors in lymphocyte egress was demonstrated by Sanna and colleagues by blocking the receptors with W146 in vivo (2006).

Product use:

To the lipid powder, add 0.1 x final volume of Na_2CO_3 and 0.1 x final volume of 20% (2-hydroxypropyl)-beta-cyclodextrin using deionized water to the final volume for concentrations up to 2.5 mg/mL (H. Rosen, personal communication). For capillary leakage and plasma measurements, 10 mg/kg W146 was injected intraperitoneally in mice. For pharmokinetic studies, 1 mg/kg W146 was intravenously injected in cannulated rats (Sanna *et al*, 2006).

References:

• Sanna MG *et al*. (2006). Enhancement of capillary leakage and restoration of lymphocyte egress by a chiral $S1P_1$ antagonist in vivo. Nat Chem Biol. Aug 2(8): 434-41.

• Gonzalez-Cabrera PJ *et al*. (2008) Full pharmacological efficacy of a novel $S1P_1$ agonist that does not require S1P-like headgroup interactions. Mol Pharmacol. 2008 Nov;74(5):1308-18.

Related products: Receptor Agonist/Antagonist
Sphingolipids

MSDS: Available on Avanti's website for product number 857390

Avanti Polar Lipids, Inc., 700 Industrial Park Drive, Alabaster, AL 35007-9105, U.S.A.
Phone •(800) 227-0651 •(205) 663-2494 •Fax (800) 229-1004 •(205) 663-0756
Email •orders@avantilipids.com •Technical Questions: technical@avantilipids.com
•Inquiries: info@avantilipids.com •Analytical: analytical@avantilipids.com

Avanti® Polar Lipids, Inc.