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DATASHEET

Topiramate

Product overview

Name	Topiramate
Cat No	HB0618
Alternative names	Topamax
Biological action	Antagonist
Purity	>99%
Description	Selective GluK1 kainate receptor antagonist

Images



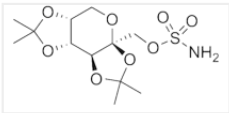
Biological Data

Biological description	Selective GluK1 kainate receptor antagonist ($IC_{50} = 0.46 \mu M$). Also, positive allosteric GABA _A receptor modulator and inhibits carbonic anhydrase (K_i values for rat carbonic anhydrase II and IV are 0.1-1 and 0.2 μM respectively). Inhibits L-type Ca^{2+} and Na_v channels ($IC_{50} = 48.9 \mu M$). Shows anticonvulsant activity.
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Solubility & Handling

Storage instructions	+4 °C
Solubility overview	Soluble in DMSO (100mM) and in ethanol (100mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	2,3:4,5-Bis-O-(1-methylethylidene)- β -D-fructopyranose sulfamate
Molecular Weight	339.36
Chemical structure	
Molecular Formula	$C_{12}H_{21}NO_8S$
CAS Number	97240-79-4

Chemical name	2,3:4,5- <i>Bis</i> - <i>O</i> -(1-methylethylidene)- β -D-fructopyranose sulfamate
PubChem identifier	5284627
SMILES	<chem>CC1(O[C@@H]2CO[C@@]3([C@H]([C@@H]2O1)OC(O3)(C)C)COS(=O)(=O)N)C</chem>
InChi	InChI=1S/C12H21NO8S/c1-10(2)18-7-5-16-12(6-17-22(13,14)15)9(8(7)19-10)20-11(3,4)21-12/h7-9 H,5-6H2,1-4H3,(H2,13,14,15)/t7-,8-,9+,12+/m1/s1
InChiKey	KJADKKWYZYXHBB-XBWDGYHZSA-N
MDL number	MFCD00865320

References

Topiramate attenuates voltage-gated sodium currents in rat cerebellar granule cells.

Zona C *et al* (1997) *Neurosci Lett* 231(3)

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Topiramate as an inhibitor of carbonic anhydrase isoenzymes.

Dodgson SJ *et al* (2000) *Epilepsia* 41 Suppl 1

PubMedID [10768298](#)

Selective antagonism of GluR5 kainate-receptor-mediated synaptic currents by topiramate in rat basolateral amygdala neurons.

Gryder DS *et al* (2003) *J Neurosci* 23(18)

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Topiramate modulation of β (1)- and β (3)-homomeric GABA(A) receptors.

Simeone TA *et al* (2011) *Pharmacol Res* 64(1)

PubMedID [21421049](#)
