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DATASHEET

2-APB

Product overview

Name	2-APB
Cat No	HB1208
Description	IP ₃ receptor and store-operated channels (SOC) channel antagonist
Alternative names	2-aminoethoxydiphenyl borate
Biological action	Antagonist

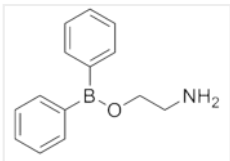
Biological Data

Biological description	<p>2-APB is a membrane permeable IP₃ (inositol 1,4,5-trisphosphate) receptor antagonist (IC₅₀ = 42μM) and store-operated Ca²⁺ channel (SOC) antagonist.</p> <p>2-APB also blocks SERCA (IC₅₀ = 91μM) and modulates some TRP channels (inhibits TRPC1, TRPC3 and TRPC5, activates TRPV1, TRPV2 and TRPV3 and shows dual activity on TRPM7 channels).</p> <p>2-APB is an effector of store-operated Ca²⁺ entry (SOCE) which potentiates store-operated Ca²⁺ entry at 1-5 μM and inhibits it at >30 μM.</p> <p>2-APB has also been shown to increase excitability in pyramidal neurons.</p>
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Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (100mM) and ethanol (10mM)
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-Aminoethoxydiphenylborane
Molecular Weight	225.1
Chemical structure	
Molecular Formula	C ₁₄ H ₁₆ BNO
CAS Number	524-95-8
PubChem identifier	1598
SMILES	NCCOB(C1=CC=CC=C1)C1=CC=CC=C1
InChi	InChI=1S/C14H16BNO/c16-11-12-17-15(13-7-3-1-4-8-13)14-9-5-2-6-10-14/h1-10H,11-12,16H2
InChiKey	BLZVCIGGICSWG-UHFFFAOYSA-N
MDL number	MFCD00014823
Appearance	White solid

References

2-Aminoethoxydiphenyl-borate (2-APB) increases excitability in pyramidal neurons.

Hagenston et al (2009) Cell Calcium 45(3)

PubMedID [19100621](#)

2-aminoethoxydiphenyl borate (2-APB) is a reliable blocker of store-operated Ca²⁺ entry but an inconsistent inhibitor of InsP₃-induced Ca²⁺ release.

Bootman et al (2002) FASEB J 16(10)

PubMedID [12153982](#)

Molecular mechanism of 2-APB-induced Ca²⁺ influx in external acidification in PC12.

Takahashi et al (2014) Exp Cell Res 232(2)

PubMedID [24630903](#)

2APB, 2-aminoethoxydiphenyl borate, a membrane-penetrable modulator of Ins(1,4,5)P₃-induced Ca²⁺ release.

Maruyama et al (1997) J Biochem 122(3)

PubMedID [9348075](#)

Inhibition of the transient receptor potential cation channel TRPM2 by 2-aminoethoxydiphenyl borate (2-APB).

Togashi et al (2008) Br J Pharmacol 153(6)

PubMedID <https://www.ncbi.nlm.nih.gov/pub>
