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## DATASHEET

### 2-APB

## Product overview

Name	2-APB
Cat No	HB1208
Alternative names	2-aminoethoxydiphenyl borate
Biological action	Antagonist
Purity	>98%
Description	IP <sub>3</sub> receptor and store-operated channels (SOC) channel antagonist

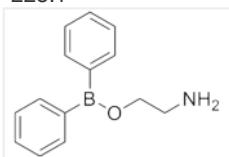
## Biological Data

Biological description	2-APB is a membrane permeable IP <sub>3</sub> (inositol 1,4,5-trisphosphate) receptor antagonist (IC <sub>50</sub> = 42μM) and store-operated Ca <sup>2+</sup> channel (SOC) antagonist.  2-APB also blocks SERCA (IC <sub>50</sub> = 91μM) and modulates some TRP channels (inhibits TRPC1, TRPC3 and TRPC5, activates TRPV1, TRPV2 and TRPV3 and shows dual activity on TRPM7 channels).  2-APB is an effector of store-operated Ca <sup>2+</sup> entry (SOCE) which potentiates store-operated Ca <sup>2+</sup> entry at 1-5 μM and inhibits it at >30 μM.  2-APB has also been shown to increase excitability in pyramidal neurons.
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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	 The chemical structure shows a central boron atom bonded to two phenyl groups (one para-substituted with an amino group) and one ethoxy group (-O-CH <sub>2</sub> -CH <sub>3</sub> ).
Molecular Formula	C <sub>14</sub> H <sub>16</sub> 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	BLZVCIGGICSWIG-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 Ca<sup>2+</sup> entry but an inconsistent inhibitor of InsP3-induced Ca<sup>2+</sup> release.**

Bootman et al (2002) FASEB J 16(10)  
PubMedID 12153982

**Molecular mechanism of 2-APB-induced Ca<sup>2+</sup> 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 Ca<sup>2+</sup> 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 K et al (2008) British journal of pharmacology 153  
PubMedID 18204483

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