**Product overview**

**Name**
L-AP4

**Cat No**
HB0370

**Short description**
L-AP4 is a selective group III mGluR agonist which inhibits synaptic transmission.

**Biological description**
L-AP4 is a selective group III mGluR agonist (EC$_{50}$ values are 0.9, 252, 0.06-0.6 μM at mGlu$_4$, mGlu$_7$, mGlu$_8$ receptors respectively and >1000 μM at other mGluRs) and also a weak NMDA receptor agonist.

L-AP4 is a potent synaptic depressant.

L-AP4 reduces glutamate release, inhibits glutamate-mediated EPSPs in the hippocampus, olfactory cortex and spinal cord and inhibits long term potentiation (LTP) in vivo.

Additionally, L-AP4 also inhibits GABA release and reversibly reduces GABA-mediated inhibitory post-synaptic potential (IPSP) amplitude.

L-AP4 also shows neuroprotective properties.

**Biological action**
Agonist

**Purity**
>99%

**Customer comments**
Great product - L-AP4 arrived in time for experiments. Excellent documentation and ease of use. Data looks promising from experiments - happy customer! Verified customer, The University of Newcastle

**Properties**

**Chemical name**
L-(+)-2-Amino-4-phosphonobutyric acid

**Molecular Weight**
183.1

**Chemical structure**

![Chemical structure of L-AP4](attachment:image.png)

**Molecular Formula**
C$_4$H$_{10}$NO$_5$P

**CAS Number**
23052-81-5

**PubChem identifier**
179394

**SMILES**
C(CP(=O)(O)O)[C@@H](C(=O)O)N

**Source**
Synthetic

**InChi**
InChI=1S/C4H10NO5P/c5-3(4(6)7)1-2-11(8,9)10/h3H,1-2,5H2,(H,6,7)(H2,8,9,10)/t3-/m0/s1

**InChiKey**
DDOQBQRIEWHWBT-VKHMYHEASA-N

**MDL number**
MFCD00083244

**Appearance**
White solid
**Storing and Using Your Product**

**Storage instructions**
Room temperature

**Solubility overview**
Soluble in water (5mM) and in 0.1M NaOH (100mM)

**Important**
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

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**References for L-AP4**

**L-AP4, a potent agonist of group III metabotropic glutamate receptor, decreases central action of angiotensin II.**
PubMedID: 12593528

**The agonist selectivity of a class III metabotropic glutamate receptor, human mGluR4a, is determined by the N-terminal extracellular domain.**
PubMedID: 8742431

**Changes of mGluR4 and the effects of its specific agonist L-AP4 in a rodent model of diffuse brain injury.**
PubMedID: 14592619

**Unveiling the functions of presynaptic metabotropic glutamate receptors in the central nervous system.**
PubMedID: 11561058