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## DATASHEET

### CGP 78608 hydrochloride

### Product overview

|                          |  |
|--------------------------|--|
| <b>Name</b>              | CGP 78608 hydrochloride  |
| <b>Cat No</b>            | HB0187   |
| <b>Alternative names</b> | PAMQX  |
| <b>Biological action</b> | Antagonist   |
| <b>Purity</b>            | >98%   |
| <b>Description</b>       | Selective, competitive GluN1 NMDAR receptor antagonist. Enhances GluN1/3 activation. |

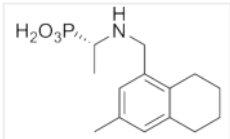
### Biological Data

|                               |   |
|-------------------------------|---|
| <b>Biological description</b> | Selective and competitive GluN1 NMDAR receptor antagonist which shows preference for the GluN1 glycine binding site ( $IC_{50} = 5$ nM). CGP-78608 prevents glycine binding to GluN1 (but not to GluN3) to strongly reduce receptor desensitization, and enhance GluN1/3A receptor activation. Used to unmask GluN1/GluN3A excitatory glycine NMDA receptors and to demonstrate that excitatory glycine GluN1/GluN3A NMDARs are functionally expressed in native neurons (at least in the juvenile brain). Also displays anticonvulsant properties. |
|-------------------------------|---|

### Solubility & Handling

|                             |   |
|-----------------------------|---|
| <b>Storage instructions</b> | Room temperature  |
| <b>Solubility overview</b>  | Soluble in NaOH(aq) (50mM, gentle warming)  |
| <b>Important</b>            | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use. |

### Chemical Data

|                           |  |
|---------------------------|--|
| <b>Chemical name</b>      | [(1S)-1-[[[7-Bromo-1,2,3,4-tetrahydro-2,3-dioxo-5-quinoxaliny]methyl]amino]ethyl]phosphonic acid hydrochloride |
| <b>Molecular Weight</b>   | 414.58   |
| <b>Chemical structure</b> |                             |
| <b>Molecular Formula</b>  | $C_{11}H_{13}BrN_3O_5P \cdot HCl$  |
| <b>CAS Number</b>         | 1135278-54-4   |
| <b>PubChem identifier</b> | 24978530   |
| <b>SMILES</b>             | <chem>O=C2C(NC1=CC(Br)=CC(CN[C@@H]([P@@](O)(O)=O)C)=C1N2)=O.Cl</chem>  |
| <b>InChiKey</b>           | MZQQZBPMRPDKTB-JEDNCBNOSA-N  |

### References

**N-phosphonoalkyl-5-aminomethylquinoxaline-2,3-diones: in vivo active AMPA and NMDA(glycine) antagonists.**

Auberson YP *et al* (1999) *Bioorg Med Chem Lett* 9(2)

**PubMedID** 10021939

**Synthesis, radiolabelling and biological characterization of (D)-7-iodo-N-(1-phosphonoethyl)-5-aminomethylquinoxaline-2,3-dione, a glycine-binding site antagonist of NMDA receptors.**

Ametamey SM *et al* (2000) *Bioorg Med Chem Lett* 10(1)

**PubMedID** 10636248

**Prolongation of levodopa responses by glycineB antagonists in parkinsonian primates.**

Papa SM *et al* (2004) *Ann Neurol* 56(5)

**PubMedID** 15470750

**Allosteric modulation of GluN1/GluN3 NMDA receptors by GluN1-selective competitive antagonists.**

Rouzbeh N *et al* (2023) *The Journal of general physiology* 155

**PubMedID** 37078900

**Unmasking GluN1/GluN3A excitatory glycine NMDA receptors.**

Grand T *et al* (2018) *Nature communications* 9

**PubMedID** 30425244

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