

(R)-CPP, NMDA antagonist ab120159

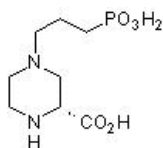
21 References [画像数 2](#)

製品の概要

製品名	(R)-CPP, NMDA antagonist
製品の詳細	Potent NMDA antagonist
生理活性の詳細	Highly potent, competitive NMDA antagonist; more active enantiomer of (<i>RS</i>)-CPP (ab120160). (K_i values are 0.04 (NR1/NR2A), 0.3 (NR1/NR2B), 0.6 (NR1/NR2C) and 2.0 μ M (NR1/NR2D)). Also available in simple stock solutions (ab144495) - add 1 ml of water to get an exact, ready-to-use concentration.

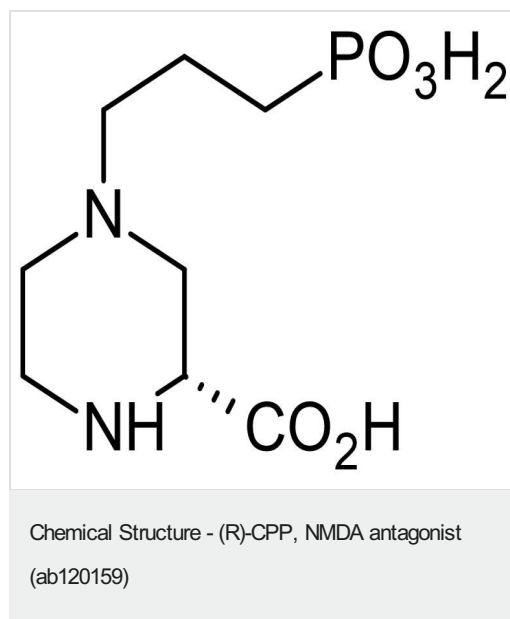
CAS 番号 126453-07-4

構造式

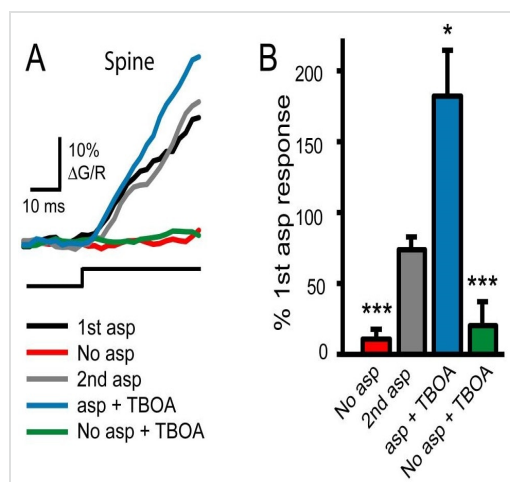


製品の特性

体系名	(R)-3-(2-Carboxypiperazin-4-yl)propyl-1-phosphonic acid
分子量	252.20
分子式	C ₈ H ₁₇ N ₂ O ₅ P
PubChem 登録番号	6603754
保存方法	Store at Room Temperature. Store under desiccating conditions. The product can be stored for up to 12 months.
溶解性	Soluble in water to 100 mM
使用に関する注意	Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and prior to opening the vial we recommend that you allow your product to equilibrate to room temperature for at least 1 hour. Need more advice on solubility, usage and handling? Please visit our frequently asked questions (FAQ) page for more details.
SMILES 線形表記	<chem>O=C(O)[C@H]1CN(CCCP(=O)(O)O)CCN1</chem>



2D chemical structure image of ab120159, (R)-CPP, NMDA antagonist



Functional Studies - (R)-CPP, NMDA antagonist
(ab120159)

Herman et al PLoS One. 2011;6(11):e26501. doi: 10.1371/journal.pone.0026501. Epub 2011 Nov 1. Fig 3. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

Transporter blockade does not reveal an ambient glutamate concentration gradient between extracellular compartments.

A. Average Ca^{2+} increase in a spine during a 40 ms voltage step, with iontophoresis of L-aspartate (black), without iontophoresis (red), a second L-aspartate application (gray), L-aspartate in the presence of 100 μM TBOA (blue), and TBOA alone (green).

B. Comparison of spine Ca^{2+} transients in each condition, normalized to the first response to L-aspartate iontophoresis ($n=5$). Error bars indicate SEM. Significance determined by Friedman ANOVA with Conover posthoc test: * $p<0.05$; ** $p<0.01$; *** $p<0.001$.

If the extrasynaptic glutamate concentration is higher than that in the cleft because transporters prevent diffusion of glutamate into the synapse, blocking transporters should result in a large Ca^{2+} increase in the spine as extrasynaptic glutamate rushes into the cleft and activates synaptic NMDARs. Spines exhibited a Ca^{2+} increase during a 40 ms depolarization with iontophoresis of the glutamate transporter substrate and NMDAR agonist, L-aspartate (A; black and gray traces), confirming the presence of NMDARs. However, TBOA (100 μM) did not increase the Ca^{2+} transient in the same spines during the 40 ms depolarization when compared to the control voltage step without L-aspartate iontophoresis (See image compare green and red traces; $20.6 \pm 13.6\%$; $p>0.5$; $n=5$). TBOA was effective in blocking transporters, however, as the NMDAR-mediated Ca^{2+} signal evoked by iontophoresis of L-

aspartate was increased in the presence of TBOA (See image).
This result indicates that glutamate transporters do not normally generate a concentration gradient of ambient glutamate between extrasynaptic and synaptic extracellular compartments.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES, NOT FOR USE IN HUMANS"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.co.jp/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors
- Abcam biochemicals are novel compounds and we have not tested their biological activity in house. Please use the literature to identify how to use these products effectively. If you require further assistance please contact the scientific support team