

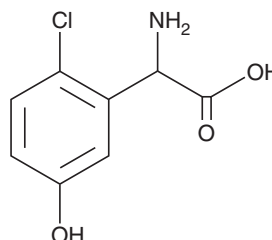
# PRODUCT INFORMATION



## (R,S)-CHPG

Item No. 21408

**CAS Registry No.:** 170846-74-9  
**Formal Name:**  $\alpha$ -amino-2-chloro-5-hydroxy-benzeneacetic acid  
**Synonyms:** Chlorohydroxyphenylglycine, CHPG  
**MF:** C<sub>8</sub>H<sub>8</sub>ClNO<sub>3</sub>  
**FW:** 201.6  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years  
**Special Conditions:** Store in desiccating conditions



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(R,S)-CHPG is supplied as a solid. A stock solution may be made by dissolving the (R,S)-CHPG in the solvent of choice. (R,S)-CHPG is soluble in 1 eq. NaOH to 100 mM.

### Description

(R,S)-CHPG is a potent and selective agonist at metabotropic glutamate receptor 5 (mGluR5). In CHO cells, it had an EC<sub>50</sub> of 750  $\mu$ M for calcium mobilization in mGluR5a-expressing cells but was inactive in mGluR1a-expressing cells.<sup>1</sup> In transfected HEK293 cells, (R,S)-CHPG bound mGluR1a and mGluR5a (K<sub>d</sub>s = 0.9 and 3.9  $\mu$ M, respectively) but not ionotropic glutamate receptors.<sup>2</sup> It reduced oxidative stress and inflammatory markers in cultured BV-2 microglial cells.<sup>3</sup> In mouse models of traumatic brain injury, it reduced lesion volume, improved sensorimotor deficits in the beam walk test, and improved spatial memory in the Morris water maze.<sup>4</sup>

### References

1. Doherty, A.J., Palmer, M.J., Henley, J.M., *et al.* (RS)-2-chloro-5-hydroxyphenylglycine (CHPG) activates mGlu<sub>5</sub>, but no mGlu<sub>1</sub>, receptors expressed in CHO cells and potentiates NMDA responses in the hippocampus. *Neuropharmacology* **36**(2), 265-267 (1997).
2. Mutel, V., Ellis, G.J., Adam, G., *et al.* Characterization of [<sup>3</sup>H]quisqualate binding to recombinant rat metabotropic glutamate 1a and 5a receptors and to rat and human brain sections. *J. Neurochem.* **75**(6), 2590-2601 (2000).
3. Qiu, J.-L., Zhu, W.-L., Lu, Y.-J., *et al.* The selective mGluR5 agonist CHPG attenuates SO<sub>2</sub>-induced oxidative stress and inflammation through TSG-6/NF- $\kappa$ B pathway in BV2 microglial cells. *Neurochem Int.* **85-86**, 46-52 (2015).
4. Loane, D.J., Stoica, B.A., Byrnes, K.R., *et al.* Activation of mGluR5 and inhibition of NADPH oxidase improves functional recovery after traumatic brain injury. *J. Neurotrauma* **30**(5), 403-412 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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