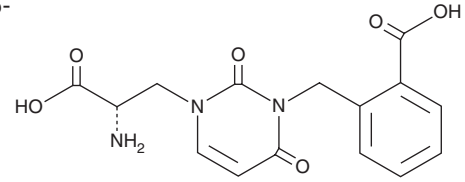
PRODUCT INFORMATION

UBP 302

Item No. 24309

CAS Registry No.: 745055-91-8
Formal Name: αS-amino-3-[(2-carboxyphenyl)methyl]-3,4-dihydro-2,4-dioxo-1(2H)-pyrimidinepropanoic acid
MF: $C_{15}H_{15}N_3O_6$
FW: 333.3
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

UBP 302 is supplied as a solid. A stock solution may be made by dissolving the UBP 302 in the solvent of choice, which should be purged with an inert gas. UBP 302 is soluble in the organic solvent DMSO at a concentration of approximately 50 mM.

Description

UBP 302 is an antagonist of glutamate receptor 5 (GluR5) subunit-containing kainate receptors that inhibits kainate-induced responses in isolated rat dorsal roots (K_d = 402 nM).[1] *In vitro*, UBP 302 inhibits gamma frequency oscillations in the rat basolateral amygdala at a concentration of 25 µM, and blocks kainate receptor signaling in layer III neurons within the mouse medial entorhinal cortex at 20 µM, abrogating the intense synaptic activity characteristic of the Up state of cortical slow oscillation.[2,3] *In vivo*, UBP 302 (250 mg/kg) significantly reduces seizure severity in a rat model of soman-induced status epilepticus.[4]

References

1. More, J.C., Nistico, R., Dolman, N.P., *et al.* Characterisation of UBP296: A novel, potent and selective kainate receptor antagonist. *Neuropharmacology* **47(1)**, 46-64 (2004).
2. Randall, F.E., Whittington, M.A., and Cunningham, M.O. Fast oscillatory activity induced by kainate receptor activation in the rat basolateral amygdala *in vitro*. *Eur. J. Neurosci.* **33(5)**, 914-922 (2011).
3. Digby, R.J., Bravo, D.S., Paulsen, O., *et al.* Distinct mechanisms of Up state maintenance in the medial entorhinal cortex and neocortex. *Neuropharmacology* **113(Pt A)**, 543-555 (2017).
4. Miller, S.L., Aroniadou-Anderjaska, V., Figueiredo, T.H., *et al.* A rat model of nerve agent exposure applicable to the pediatric population: The anticonvulsant efficacies of atropine and GluK1 antagonists. *Toxicol. Appl. Pharmacol.* **284(2)**, 204-216 (2015).

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