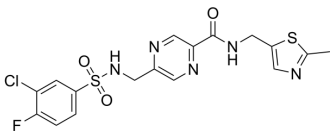
MPX-004

Cat. No.:	HY-148939
CAS No.:	1688684-07-2
Molecular Formula:	$C_{17}H_{15}ClFN_5O_3S_2$
Molecular Weight:	455.91
Target:	iGluR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MPX-004 is a potent GluN2A antagonist. MPX-004 inhibits GluN2A-containing NMDA receptors expressed in HEK cells with an IC_{50} of 79 nM. MPX-004 has no inhibitory effect on GluN2B or GluN2D receptor-mediated responses. MPX-004 has the potential for neuropsychiatric and developmental disorders research[1].
IC_{50} & Target	NMDA Receptor
In Vitro	MPX-004 inhibits NMDA receptor-mediated currents in Xenopus oocytes expressing human GluN1 + GluN2A with an IC_{50} of 198 nM. At 10 μM, MPX-004 only weakly (up to 8%) inhibits currents in oocytes expressing GluN2B, C, or D receptors or in control oocytes[1]. MPX-004 (100 nM-30 μM; 0-50 min) causes a concentration-dependent reduction in NMDA receptor-mediated fEPSPs in region CA1 in response to Schaffer collateral stimulation in hippocampal slices prepared from brains of 3- to 4-week old rats [1]. MPX-004 (1 μM) inhibits 5-HT_{1B} antagonist binding by 35%, 5-HT_{2A} agonist binding by 31% and EP4 agonist binding by 27%. MPX-004 (50 μM) has no effect on AMPA receptor-mediated synaptic currents of pyramidal neurons in slices from mouse visual cortex- currents[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Robert A Volkmann, et al. MPX-004 and MPX-007: New Pharmacological Tools to Study the Physiology of NMDA Receptors Containing the GluN2A Subunit. PLoS One. 2016 Feb 1;11(2):e0148129.

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