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DATASHEET

UBP145

Product overview

Name	UBP145
Cat No	HB4717
Alternative names	UBP-145
Biological action	Antagonist
Purity	>97%
Description	Selective antagonist for GluN2D subunit containing NMDA receptors

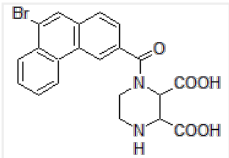
Biological Data

Biological description	Selective antagonist for GluN2D subunit containing NMDA receptors. Binds competitively at the glutamate site. Displays ~10- fold selectivity for GluN2D-containing receptors over GluN2B (NR2B) or GluN2A (NR2A) containing receptors (K_i values are 1.19, 7.99 and 11.53 at GluN1/GluN2D, GluN1/GluN2B and GluN1/GluN2A containing receptors respectively). Inhibits synaptic NMDAR response.
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Solubility & Handling

Storage instructions	-20 °C
Solubility overview	Soluble in DMSO (100mM, gentle warming)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	1-(9-bromophenanthrene-3-carbonyl)piperazine-2,3-dicarboxylic acid
Molecular Weight	457.28
Chemical structure	
Molecular Formula	$C_{21}H_{17}BrN_2O_5$
PubChem identifier	56945293
SMILES	<chem>C1CN([C@H]([C@H](N1)C(=O)O)C(=O)O)C(=O)C2=CC3=C(C=C2)C=C(C4=CC=CC=C43)Br</chem>
Source	Synthetic
InChi	InChI=1S/C21H17BrN2O5/c22-16-10-11-5-6-12(9-15(11)13-3-1-2-4-14(13)16)19(25)24-8-7-23-17(20(26)27)18(24)21(28)29/h1-6,9-10,17-18,23H,7-8H2,(H,26,27)(H,28,29)/t17-,18+/m0/s1
InChiKey	HUVFBBHRFWAJAA-ZWKOTPCHSA-N
Appearance	Off-white solid

References

N-methyl-D-aspartate (NMDA) receptor NR2 subunit selectivity of a series of novel piperazine-2,3-dicarboxylate derivatives: preferential blockade of extrasynaptic NMDA receptors in the rat hippocampal CA3-CA1 synapse.

Costa et al (2009) J Pharmacol Exp Ther 331(2)

PubMedID [19684252](#)

GluN2B and GluN2D NMDARs dominate synaptic responses in the adult spinal cord.

Hildebrand et al (2014) Sci Rep 13

PubMedID [24522697](#)

Different NMDA receptor subtypes mediate induction of long-term potentiation and two forms of short-term potentiation at CA1 synapses in rat hippocampus in vitro.

Volianskis et al (2013) J Physiol. 591(4)

PubMedID [23230236](#)

Multiple roles of GluN2D-containing NMDA receptors in short-term potentiation and long-term potentiation in mouse hippocampal slices

Eapen et al (2021) Neuropharmacology . 108833

PubMedID [34637787](#)

Differential regulation of STP, LTP and LTD by structurally diverse NMDA receptor subunit-specific positive allosteric modulators

France et al (2022) Neuropharmacology 202:108840

PubMedID [34678377](#)
