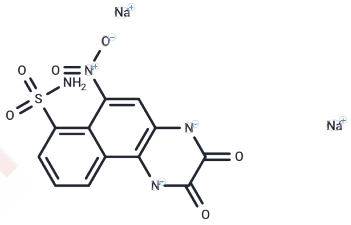
# Data Sheet (Cat.No.T25853)

TargetMol

## NBQX disodium

### Chemical Properties



| | |
|---|---|
| CAS No. : | 479347-86-9 |
| Formula: | C12H6N4Na2O6S |
| Molecular Weight: | 380.2415 |
| Storage: | Store at low temperature,Store under nitrogen<br>Powder: -20°C for 3 years \| In solvent: -80°C for 1 year<br>Actual storage temperature shall be subject to the COA. |

### Biological Description

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| Description | NBQX disodium is a highly selective, competitive AMPA receptor antagonist with neuroprotective and anticonvulsant activity. NBQX disodium is a salt of NBQX. NBQX disodium is a potent and selective AMPA/rhodosinate receptor antagonist that can be used to antagonize the excitatory toxicity of glutamate. It has anticonvulsant effects in rodent models. |
| Targets(IC50) | GluR,iGluR |
| In vitro | In HIP-009 cells, NBQX disodium salt inhibited both AMPA or kainic acid (KA) induced signals in a concentration-dependent manner, with IC50 values being 0.7 ± 0.1 and 0.7 ± 0.03 μM, respectively. The AMPA-evoked calcium rise was completely inhibited by NBQX disodium salt, whereas 68.6% ± 1.3% inhibition of the KA-induced signal was observed with 30 μM of NBQX disodium salt treatment.[1] |
| In vivo | Administration of NBQX disodium (FG9202; 20 mg/kg, i.p.; for 3 days) exhibits a reduction in PTZ-induced seizures. [2]<br>In a rat model of focal ischemia, NBQX disodium demonstrates neuroprotective effects when administered intravenously as a bolus dose of 30 mg/kg at the time of MCA occlusion, followed by an additional dose at 1 hour post-occlusion. [3] |

### Solubility Information

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|---|---|
| Solubility | H2O: 30 mg/mL (78.9 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.26 mM),Sonication is recommended.<br>*Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.6299 mL | 13.1496 mL | 26.2992 mL |
| 5 mM | 0.526 mL | 2.6299 mL | 5.2598 mL |
| 10 mM | 0.263 mL | 1.315 mL | 2.6299 mL |
| 50 mM | 0.0526 mL | 0.263 mL | 0.526 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Fukushima K, et al. Characterization of Human Hippocampal Neural Stem/Progenitor Cells and Their Application to Physiologically Relevant Assays for Multiple Ionotropic Glutamate Receptors. J Biomol Screen. 2014;19(8):1174-1184.

Chen W, et al. AMPA Receptor Antagonist NBQX Decreased Seizures by Normalization of Perineuronal Nets. PLoS One. 2016;11(11):e16667

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Twele F, et al. The AMPA receptor antagonist NBQX exerts anti-seizure but not antiepileptogenic effects in the intrahippocampal kainate mouse model of mesial temporal lobe epilepsy. Neuropharmacology. 2015;95:234-242.

Ruda-Kucerova J, et al. NBQX attenuates relapse of nicotine seeking but not nicotine and methamphetamine self-administration in rats. World J Biol Psychiatry. 2021;22(10):733-743.



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