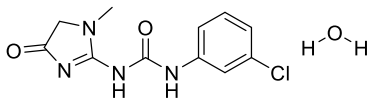
Product data sheet

MedKoo Cat#: 574318 Name: Fenobam hydrate CAS#: 63540-28-3 Chemical Formula: $C_{11}H_{13}ClN_4O_3$ Exact Mass: 284.0676 Molecular Weight: 284.7	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

Fenobam hydrate is a noncompetitive antagonist and inverse agonist of metabotropic glutamate receptor 5 (mGluR5). It inhibits intracellular calcium mobilization induced by the glutamate analog quisqualate and inhibits basal activity of mGluR5. Fenobam reduces stress-induced hyperthermia, exhibits anxiolytic-like activity, and may induce analgesia.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	28.47	100.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.51 mL	17.56 mL	35.12 mL
5 mM	0.70 mL	3.51 mL	7.02 mL
10 mM	0.35 mL	1.76 mL	3.51 mL
50 mM	0.07 mL	0.35 mL	0.70 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Ahn EH, Kim DW, Shin MJ, Jo HS, Eom SA, Kim DS, Park EY, Park JH, Cho SW, Park J, Eum WS, Son O, Hwang HS, Choi SY. Fenobam promoted the neuroprotective effect of PEP-1-FK506BP following oxidative stress by increasing its transduction efficiency. BMB Rep. 2013 Nov;46(11):561-6. doi: 10.5483/bmbrep.2013.46.11.080. PMID: 24152913; PMCID: PMC4133844.

In vivo study

1. Lax NC, George DC, Ignatz C, Kolber BJ. The mGluR5 antagonist fenobam induces analgesic conditioned place preference in mice with spared nerve injury. PLoS One. 2014 Jul 25;9(7):e103524. doi: 10.1371/journal.pone.0103524. PMID: 25061818; PMCID: PMC4111598.
2. Ahn EH, Kim DW, Shin MJ, Jo HS, Eom SA, Kim DS, Park EY, Park JH, Cho SW, Park J, Eum WS, Son O, Hwang HS, Choi SY. Fenobam promoted the neuroprotective effect of PEP-1-FK506BP following oxidative stress by increasing its transduction efficiency. BMB Rep. 2013 Nov;46(11):561-6. doi: 10.5483/bmbrep.2013.46.11.080. PMID: 24152913; PMCID: PMC4133844.

7. Bioactivity

Biological target:

A noncompetitive antagonist and inverse agonist of mGluR5.

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In vitro activity

By contrast, single treatment with fenobam rarely produced significant protection against DNA damage. From these results, it is suggested that fenobam promotes the protective effect of PEP-1-FK506BP against H_2O_2-inducedoxidative stress in C6 cells.

Reference: BMB Rep. 2013 Nov; 46(11): 561–566. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4133844/

In vivo activity

Both fenobam and MPEP induced preference in the SNI mice, such that SNI mice spent significantly more time in the mGluR5 antagonist-paired chamber compared to a vehicle-paired chamber.

Reference: PLoS One. 2014 Jul 25;9(7):e103524. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4111598/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.