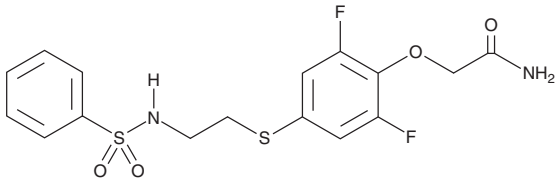
PRODUCT INFORMATION

PEPA

Item No. 29190

CAS Registry No.:	141286-78-4
Formal Name:	2-[2,6-difluoro-4-[[2-[(phenylsulfonyl)amino]ethyl]thio]phenoxy]-acetamide
MF:	$C_{16}H_{16}F_2N_2O_4S_2$
FW:	402.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 258 nm
Supplied as:	A crystalline 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

PEPA is supplied as a crystalline solid. A stock solution may be made by dissolving the PEPA in the solvent of choice, which should be purged with an inert gas. PEPA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of PEPA in ethanol is approximately 3 mg/ml and approximately 30 mg/ml in DMSO and DMF.

PEPA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PEPA should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PEPA has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PEPA is a positive allosteric modulator (PAM) of AMPA receptors.[1] It selectively increases glutamate-induced currents in *X. laevis* oocytes expressing the flop isoforms of the AMPA receptor subunits glutamate receptor 3 (GluR3) and GluR4 over the flip isoforms of these subunits at 200 µM. PEPA (10 mg/kg) decreases the latency to find the platform in the Morris water maze, indicating reversal of memory deficits, in a rat model of memory impairment induced by middle cerebral artery occlusion (MCAO).[2] It decreases freezing time in a contextual fear freezing paradigm in mice when administered at a dose of 30 mg/kg.[3]

References

1. Sekiguchi, M., Fleck, M.W., Mayer, M.L., *et al.* A novel allosteric potentiator of AMPA receptors: 4-[2-(phenylsulfonylamino)ethylthio]-2,6-difluoro-phenoxyacetamide. *J. Neurosci.* **17(15),** 5760-5771 (1997).
2. Sekiguchi, M., Yamada, K., Jin, J., *et al.* The AMPA receptor allosteric potentiator PEPA ameliorates post-ischemic memory impairment. *Neuroreport* **12(13),** 2947-29950 (2001).
3. Zushida, K., Sakurai, M., Wada, K., *et al.* Facilitation of extinction learning for contextual fear memory by PEPA: A potentiator of AMPA receptors. *J. Neurosci.* **27(1),** 158-166 (2007).

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