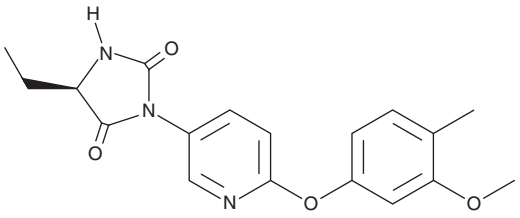
PRODUCT INFORMATION

AUT1

Item No. 28599

CAS Registry No.:	1311136-84-1
Formal Name:	5R-ethyl-3-[6-(3-methoxy-4-methylphenoxy)-3-pyridinyl]-2,4-imidazolidinedione
MF:	$C_{18}H_{19}N_3O_4$
FW:	341.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 277 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

AUT1 is supplied as a crystalline solid. A stock solution may be made by dissolving the AUT1 in the solvent of choice, which should be purged with an inert gas. AUT1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of AUT1 in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

AUT1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, AUT1 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. AUT1 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

AUT1 is a positive modulator of the voltage-gated potassium channel subtypes $K_v3.1b$, $K_v3.2a$, and $K_v3.3$ (EC_{50}s = 4.7, 4.9, and 31.6 µM, respectively, in a patch-clamp assay).[1] It is selective for $K_v3.1b$, $K_v3.2a$, and $K_v3.3$ over $K_v1.5$ and $K_v7.1$/minK channels but also inhibits the serotonin (5-HT) transporter, 5-HT_3 receptor, and α1 subunit-containing nicotinic acetylcholine receptor (nAChR) in a panel of 26 ion channels, receptors, and transporters. AUT1 increases tetraethylammonium-induced decreases in the firing frequency and amplitude of action potentials in mouse somatosensory cortex slices when used at concentrations of 1 and 10 µM.

Reference

1. Rosato-Siri, M.D., Zambello, E., Mutinelli, C., *et al.* A novel modulator of Kv3 potassium channels regulates the firing of parvalbumin-positive cortical interneurons. *J. Pharmacol. Exp. Ther.* **354(3)**, 251-260 (2015).

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