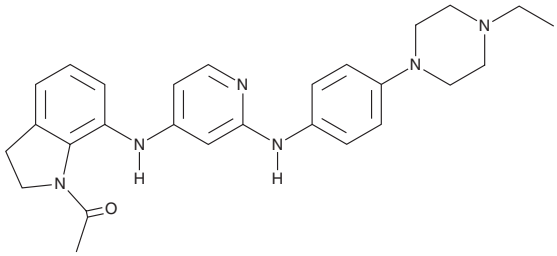
PRODUCT INFORMATION

UCL-TRO-1938

Item No. 39118

CAS Registry No.:	2919575-27-0
Formal Name:	1-[7-[[2-[[4-(4-ethyl-1-piperazinyl) phenyl]amino]-4-pyridinyl]amino]-2,3-dihydro-1H-indol-1-yl]-ethanone
MF:	$C_{27}H_{32}N_6O$
FW:	456.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 297 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥3 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

UCL-TRO-1938 is supplied as a solid. A stock solution may be made by dissolving the UCL-TRO-1938 in the solvent of choice, which should be purged with an inert gas. UCL-TRO-1938 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of UCL-TRO-1938 in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of UCL-TRO-1938 can be prepared by directly dissolving the solid in aqueous buffers. UCL-TRO-1938 is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

UCL-TRO-1938 is an allosteric activator of PI3Kα.[1] It binds to PI3Kα in a surface plasmon resonance (SPR) assay (K_d = 36 µM) and induces PI3Kα activation in a cell-free assay when used at concentrations of 25 and 50 µM, an effect that can be reversed by the PI3Kα inhibitor BYL719 (Item No. 16986). UCL-TRO-1938 increases PtdIns-(3,4,5)-P_3 and phosphorylated Akt levels in mouse embryonic fibroblasts (MEFs; EC_{50}s = 5 and 2-4 µM, respectively). *Ex vivo*, UCL-TRO-1938 increases tissue survival and decreases infarct size in perfused rat hearts. *In vivo*, UCL-TRO-1938 (10 mg/kg) reduces infarct size in a mouse model of ischemia-reperfusion injury induced by left anterior descending (LAD) coronary artery occlusion. It also increases the number of motor neurons and innervation of neuromuscular junctions in a rat model of sciatic nerve crush injury.

Reference

1. Gong, G.Q., Bilanges, B., Allsop, B., *et al.* A small-molecule PI3Kα activator for cardioprotection and neuroregeneration. Nature **618(7963)**, 159-168 (2023).

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