

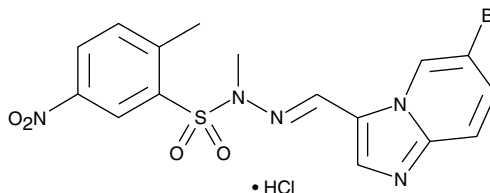
Product Information



PIK-75 (hydrochloride)

Item No. 10009210

CAS Registry No.: 372196-77-5
Formal Name: 2-methyl-5-nitro-2-[(6-bromoimidazo[1,2-a]pyridin-3-yl)methylene]-1-methylhydrazide-benzenesulfonic acid, monohydrochloride
MF: C₁₆H₁₄BrN₅O₄S • HCl
FW: 488.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that PIK-75 (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

PIK-75 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the PIK-75 (hydrochloride) in the solvent of choice. PIK-75 (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PIK-75 (hydrochloride) in DMSO and DMF is approximately 0.25 and 0.5 mg/ml, respectively.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Phosphatidylinositol 3-kinase (PI3K) catalyzes the synthesis of the second messengers PtdIns-(3)-P, PtdIns-(3,4)-P₂, and PtdIns-(3,4,5)-P₃. The PI3K family of enzymes is comprised of 15 members that are divided into three classes according to their structure, substrate specificity, and mode of regulation.¹ In the class I PI3Ks, p110α is the primary PI3K isoform required for insulin signaling in adipocytes and myotubes and is frequently mutated in primary tumors.² Small molecule inhibitors of p110α are of interest in cancer treatment research. PIK-75 is an imidazopyridine that selectively inhibits p110α with an IC₅₀ value of 5.8 nM². It inhibits p110γ and p110β considerably less effectively with IC₅₀ values of 0.076 μM and 1.3 μM, respectively². In adipocytes and myotubes, PIK-75 blocks production of PIP₂ and/or PIP₃, phosphorylation of Akt, and activation of mTORC1.²

References

1. Carracedo, A. and Pandolfi, P.P. The PTEN-PI3K pathway: Of feedbacks and cross-talks. *Oncogene* **27**, 5527-5541 (2008).
2. Knight, Z.A., Gonzalez, B., Feldman, M.E., *et al.* A pharmacological map of the PI3-K family defines a role for p110α in insulin signaling. *Cell* **125**, 733-747 (2006).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10009210

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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