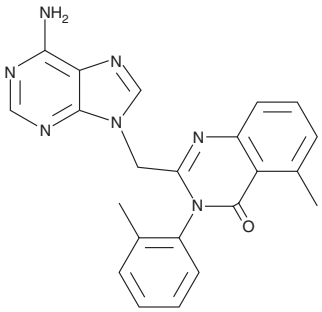
PRODUCT INFORMATION

IC-87114

Item No. 11589

CAS Registry No.:	371242-69-2
Formal Name:	2-[(6-amino-9H-purin-9-yl)methyl]-5-methyl-3-(2-methylphenyl)-4(3H)-quinazolinone
MF:	$C_{22}H_{19}N_7O$
FW:	397.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 229, 262, 310 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

IC-87114 is supplied as a crystalline solid. A stock solution may be made by dissolving the IC-87114 in the solvent of choice, which should be purged with an inert gas. IC-87114 is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of IC-87114 in these solvents is approximately 30 mg/ml.

IC-87114 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IC-87114 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. IC-87114 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

IC-87114 is a cell-permeable selective inhibitor of the PI3K catalytic subunit p110δ (IC_{50} = 0.5 µM).[1] It less effectively inhibits p110γ and p110β (IC_{50} = 29 and 75 µM, respectively) and has no significant effect on p110α and several other kinases.[1,2] This product is used to elucidate the role of p110δ in cells, including neutrophils, natural killer cells, and other types of leukocytes.[1-5] It has also been used in mice.[6]

References

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2. Sadhu, C., Dick, K., Tino, W.T., *et al.* Selective role of PI3Kδ in neutrophil inflammatory responses. *Biochem. Biophys. Res. Commun.* **308(4)**, 764-769 (2003).
3. Saudemont, A., Garçon, F., Yadi, H., *et al.* p110γ and p110δ isoforms of phosphoinositide 3-kinase differentially regulate natural killer cell migration in health and disease. *Proc. Natl. Acad. Sci. USA* **106(14)**, 5795-5800 (2009).
4. Niedermeier, M., Hennessy, B.T., Knight, Z.A., *et al.* Isoform-selective phosphoinositide 3'-kinase inhibitors inhibit CXCR4 signaling and overcome stromal cell-mediated drug resistance in chronic lymphocytic leukemia: A novel therapeutic approach. *Blood* **113(22)**, 5549-5557 (2009).
5. Sujobert, P., Bardet, V., Cornillet-Lefebvre, P., *et al.* Essential role for the p110δ isoform in phosphoinositide 3-kinase activation and cell proliferation in acute myeloid leukemia. *Blood* **106(3)**, 1063-1066 (2005).
6. Lee, K.S., Lee, H.K., Hayflick, J.S., *et al.* Inhibition of phosphoinositide 3-kinase δ attenuates allergic airway inflammation and hyperresponsiveness in murine asthma model. *FASEB J.* **20(3)**, 455-465 (2006).

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