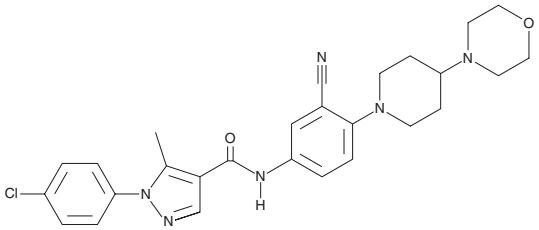
PRODUCT INFORMATION

Y320

Item No. 16314

CAS Registry No.: 288250-47-5
Formal Name: 1-(4-chlorophenyl)-N-[3-cyano-4-[4-(4-morpholinyl)-1-piperidinyl]phenyl]-5-methyl-1H-pyrazole-4-carboxamide
MF: $C_{27}H_{29}ClN_6O_2$
FW: 505.0
Purity: ≥98%
UV/Vis.: λ_{max}: 222, 287 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

Y320 is supplied as a crystalline solid. A stock solution may be made by dissolving the Y320 in the solvent of choice, which should be purged with an inert gas. Y320 is soluble in the organic solvent dimethyl formamide (DMF) at a concentration of approximately 5 mg/ml.

Y320 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Y320 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Y320 has a solubility of approximately 0.1 mg/ml in a 1:6 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Y320 is an immunomodulator.[1,2] It binds to stimulator of interferon genes (STING; K_d = 202 nM) at an allosteric site and selectively binds to STING over a panel of 468 kinases at 1 µM.[2] It inhibits STING signaling induced by the STING agonist MSA-2 (Item No. 30140) in THP-1 cells in a reporter assay (IC_{50} = 356 nM) to a greater extent than H-151 (Item No. 25857). Y320 also inhibits α2,3- and α2,6-sialylation in PANC-1 pancreatic ductal adenocarcinoma (PDAC) cells (IC_{50}s = 225 and 158 nM, respectively).[3] Y320 (25 nM) reduces African swine fever virus (ASFV) replication in porcine alveolar macrophages.[4] It inhibits IL-17 release induced by IL-15, chemokine (C-X-C motif) ligand 12 (CXCL12), and an anti-CD3 monoclonal antibody in isolated mouse Th17 and $CD4^+$ T cells (IC_{50}s = 52.4 and 25.7 nM, respectively).[1] *In vivo*, Y320 decreases disease severity in mouse models of collagen-induced arthritis and cisplatin-induced acute kidney injury (AKI).[1,2] It decreases tumor volume and increases cytokine secretion by immune cells in the draining lymph nodes in a CT26 murine colon cancer model.[3]

References

1. Ushio, H., Ishibuchi, S., Oshita, K., *et al.* A new phenylpyrazoleanilide, y-320, inhibits interleukin 17 production and ameliorates collagen-induced arthritis in mice and cynomolgus monkeys. *Pharmaceuticals (Basel)* **7(1)**, 1-17 (2014).
2. Chen, Q., Shen, A., Shi, X., *et al.* Identification of an STING inhibitor targeting the allosteric transmembrane domains. *Cell Chem. Biol.* **33(5),** 623-636 (2026).
3. Mou, J., Chen, R., Dai, Z., *et al.* A potent oral sialylation inhibitor augments the immunotherapy in pancreatic ductal adenocarcinoma. *ACS Cent. Sci.* **11(10),** 1969-1983 (2025).
4. Gao, Q., Xu, Y., Feng, Y., *et al.* Deoxycholic acid inhibits ASFV replication by inhibiting MAPK signaling pathway. *Int. J. Biol. Macromol.* **266(Pt 1),** 130939 (2024).

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