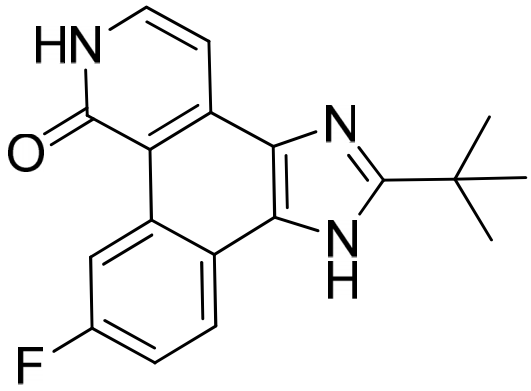
Merck 5

SYN-1054



6-dihydro-7H-Benz[h]imidazo[4,5-f]isoquinolin-7-one, 2-(1,1-dimethylethyl)-9-fluoro-1

CAS Registry No.: 457081-03-7

Smiles String:
CC(C)(C)c1[nH]c2c3ccc(cc3c4c(c2n1)cc[nH]c4=O)F

Molecular Weight: 309.34

Molecular Formula: C18H16FN3O

Lot Number: Refer to vial

1H-NMR: Available on request

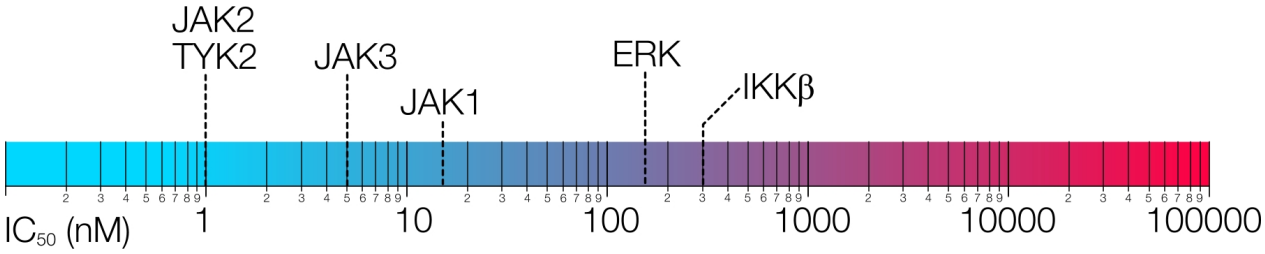
HPLC (Purity): > 95.0% @ 254 nm

ES-MS: Available on request

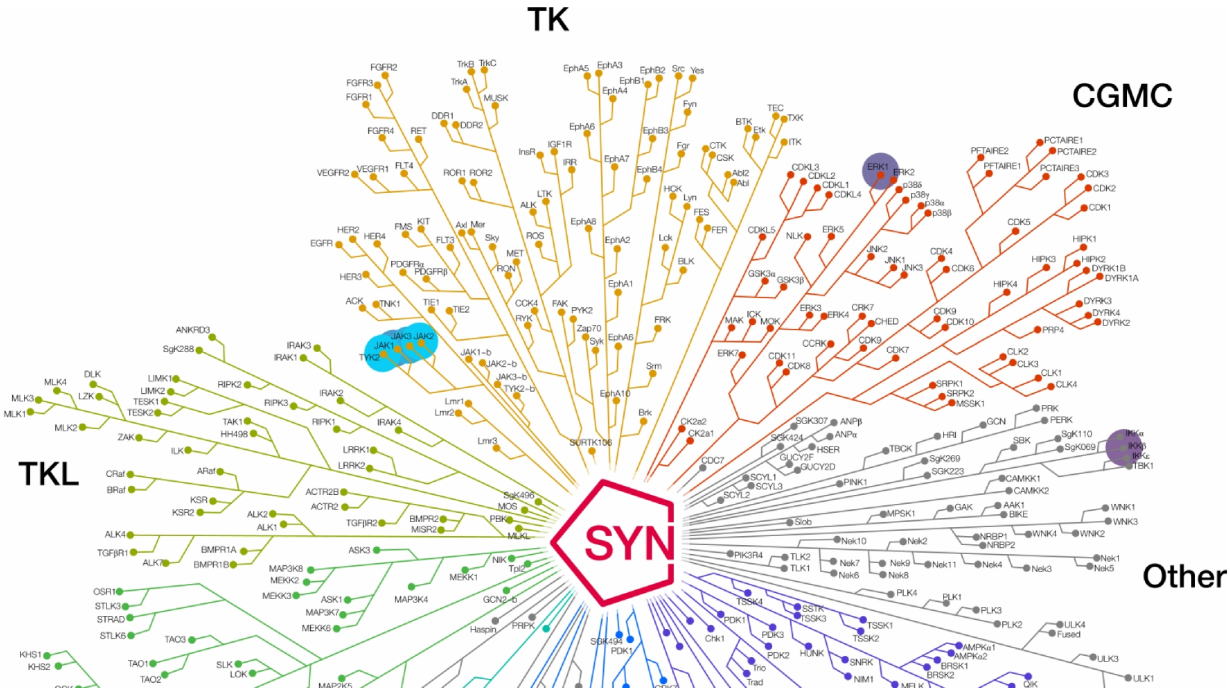
Description:

Merck 5, also known as Pyridone 6, is a potent and reversible ATP-competitive inhibitor of the JAK kinases (JAK1, JAK2, JAK3, and Tyk2) with IC50 values in the low anomolar range. At higher values (IC50 >100 nM) Merck 5 also can inhibit ERK kinase family and appear to block IL2 and IL4 dependent proliferation of CTLL cells and inhibits the phosphorylation of STAT5. In research comparing Merck 5 (Pyridone 6) to the Jak inhibitor AG490, Merck 5 demonstrated much lower effective drug concentrations and faster kinetics and appear to be a more sensitive and specific inhibitor of JAK-STAT3 activity compared with AG490 and potently inhibited the growth of primary myeloma cells and myeloma-derived cell lines grown on bone marrow-derived stromal cells.

Biological Activity



Kinome Mapping



Shipping and Storage Temperature

Shipping:
Ambient

Storage:
2 years -20C, Powder 1 month, -4C in DMSO, More than one month -80C in DMSO

Solubility

5 mg/mL in DMSO

Preparing Stock Solutions

Stock Solution (1ml DMSO)	1mM	10mM	20mM	50mM
Mass(mg)	0.3093	3.0934	6.1868	15.4670

References

1. Thompson JE, Cubbon RM, Cummings RT, Wicker LS, Frankshun R, Cunningham BR, Cameron PM, Meinke PT, Liverton N, Weng Y, DeMartino JA . Photochemical preparation of a pyridone containing tetracycle: a Jak protein kinase inhibitor. Bioorg Med Chem Lett. 2002 Apr 22;12(8):1219-23.

2. Chen X, Wilson LJ, Malaviya R, Argentieri RL, Yang SM . Virtual screening to successfully identify novel janus kinase 3 inhibitors: a sequential focused screening approach. J Med Chem. 2008 Nov 13;51(21):7015-9. doi: 10.1021/jm800662z. Epub 2008 Oct 10.

3. Fedorov O, Marsden B, Pogacic V, Rellos P, Müller S, Bullock AN, Schwaller J, Sundström M, Knapp S . A systematic interaction map of validated kinase inhibitors with Ser/Thr kinases. Proc Natl Acad Sci U S A. 2007 Dec 18;104(51):20523-8. Epub 2007 Dec 11.

Ordering Information

To order more of this or any other SYNkinase compound, go to synkinase.com, Call us Toll Free (US Only) at 1- 877-854-6273 or email orders@synkinase.com.