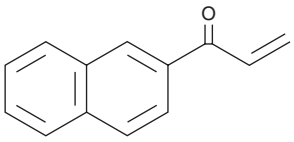
PRODUCT INFORMATION

ZM 449829

Item No. 32820

CAS Registry No.:	4452-06-6
Formal Name:	1-(2-naphthalenyl)-2-propen-1-one
Synonyms:	JAK3 Inhibitor V, Janus-Associated Kinase 3 Inhibitor V
MF:	$C_{13}H_{10}O$
FW:	182.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 215, 254, 295 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

ZM 449829 is supplied as a crystalline solid. A stock solution may be made by dissolving the ZM 449829 in the solvent of choice, which should be purged with an inert gas. ZM 449829 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ZM 449829 is approximately 30 mg/ml in DMSO and DMF. ZM 449829 is slightly soluble in ethanol.

Description

ZM 449829 is a degradation product of ZM 39923 (Item No. 16729) and an inhibitor of JAK3 (IC_{50} = 0.158 µM).[1,2] It is selective for JAK3 over EGFR and JAK1 (IC_{50}s = 10 and 19.95 µM, respectively) but does inhibit human tissue transglutaminase 2 (TGM2) and transglutaminase factor XIIIa (FXIIIa; IC_{50}s = 0.005 and 0.006 µM, respectively).[1,3] ZM 449829 decreases the formation of cancer stem cells (CSC) within MCF-7-derived mammospheres.[4] It decreases migration of, and colony formation by, MCF-7 cells when used at a concentration of 10 µM. ZM 449829 (10 µM) also inhibits formation of replication vacuoles in *C. burnetii*-infected HeLa and THP-1 cells.[5]

References

1. Brown, G.R., Bamford, A.M., Bowyer, J., *et al*. Naphthyl ketones: A new class of Janus kinase 3 inhibitors. *Bioorg. Med. Chem. Lett.* **10(6)**, 575-579 (2000).
2. Luo, C. and Laaja, P. Inhibitors of JAKs/STATs and the kinases: A possible new cluster of drugs. *Drug Discov. Today* **9(6)**, 268-275 (2004).
3. Lai, T.-S., Liu, Y., Tucker, T., *et al*. Identification of chemical inhibitors to human tissue transglutaminase by screening existing drug libraries. *Chem. Biol.* **15(9)**, 969-978 (2008).
4. Choi, H.S., Kim, D.-A., Chung, H., *et al*. Screening of breast cancer stem cell inhibitors using a protein kinase inhibitor library. *Cancer Cell Int.* **17**, 25 (2017).
5. Hussain, S.K., Broederdorf, L.J., Sharma, U.M., *et al*. Host kinase activity is required for *Coxiella burnetii* parasitophorous vacuole formation. *Front. Microbiol.* **1**, 137 (2010).

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