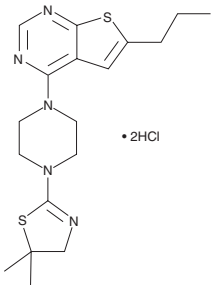
PRODUCT INFORMATION

MI-2 (hydrochloride)

Item No. 11620

Formal Name:	4-(4-(5,5-dimethyl-4,5-dihydrothiazol-2-yl)piperazin-1-yl)-6-propylthieno[2,3-d]pyrimidine, dihydrochloride
MF:	$C_{18}H_{25}N_5S_2 \bullet 2HCl$
FW:	448.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 224, 284 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

MI-2 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the MI-2 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. MI-2 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of MI-2 (hydrochloride) in these solvents is approximately 30, 10, and 20 mg/ml, respectively.

Description

Menin, a product of the multiple endocrine neoplasia gene, is an essential component of histone methyltransferase complexes involving the mixed lineage leukemia (MLL) gene product.[1,2] Also, the leukemogenic activity of MLL fusion proteins depends on their direct interaction with menin.[3] MI-2 potently binds menin, blocks the menin-MLL fusion protein interaction (IC_{50} = 0.45 µM), and induces apoptosis in cells expressing MLL fusion proteins.[3] Its actions can be compared with those of MI-nc (Item No. 11621), a weak inhibitor of the menin MLL interaction (IC_{50} = 193 µM).[3]

References

1. Chandrasekharappa, S.C., Guru, S.C., Manickam, P., *et al.* Positional cloning of the gene for multiple endocrine neoplasia-type 1. *Science* **276(5311)**, 404-407 (1997).
2. Guccione, E., Bassi, C., Casadio, F., *et al.* Methylation of histone H3R2 by PRMT6 and H3K4 by an MLL complex are mutually exclusive. *Nature* **449(7164)**, 933-937 (2007).
3. Grembecka, J., He, S., Shi, A., *et al.* Menin-MLL inhibitors reverse oncogenic activity of MLL fusion proteins in leukemia. *Nat. Chem. Biol.* **8(3)**, 277-284 (2012).

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