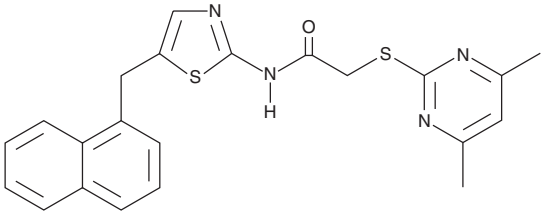
PRODUCT INFORMATION

SirReal2

Item No. 18116

CAS Registry No.:	709002-46-0
Formal Name:	2-[(4,6-dimethyl-2-pyrimidinyl) thio]-N-[5-(1-naphthalenylmethyl)-2-thiazolyl]-acetamide
MF:	$C_{22}H_{20}N_4OS_2$
FW:	420.5
Purity:	≥98%
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 247, 282 nm
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

SirReal2 is supplied as a crystalline solid. A stock solution may be made by dissolving the SirReal2 in the solvent of choice. SirReal2 is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 3 mg/ml.

SirReal2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SirReal2 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. SirReal2 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sirtuins (SIRTs) represent a distinct class of trichostatin A-insensitive lysyl-deacetylases (class III HDACs). SIRT2 deacetylates histone H4 and α-tubulin and functions as a regulator of cell cycle progression, a determinant of myelination, a modulator of autophagy, and a suppressor of brain inflammation.[1-4] SirReal2 is an aminothiazole that acts as a SIRT-rearranging ligand to selectively inhibit SIRT2 (IC_{50} = 140 nM).[5] SirReal2 is >1,000-fold more potent at inhibiting the activity of SIRT2 than that of SIRT1 or SIRT3-6.[5] This compound has been shown to be active in HeLa cells by significantly increasing α-tubulin acetylation.[5]

References

1. Tang, B.L. and Chua, C.E.L. SIRT2, tubulin deacetylation, and oligodendroglia differentiation. *Cell Motil. Cytoskeleton* **65**, 179-182 (2008).
2. North, B.J., Marshall, B.L., Borra, M.T., *et al*. The human Sir2 ortholog, SIRT2, is an NAD^+-dependent tubulin deacetylase. *Mol. Cell* **11**, 437-444 (2003).
3. Dryden, S.C., Nahhas, F.A., Nowak, J.E., *et al*. Role for human SIRT2 NAD-dependent deacetylase activity in control of mitotic exit in the cell cycle. *Mol. Cell. Biol.* **23(9)**, 3173-3185 (2003).
4. de Oliveira, R.M., Sarkander, J., Kazantsev, A.G., *et al*. SIRT2 as a therapeutic target for age-related disorders. *Front. Pharmacol.* **3(82)**, (2012).
5. Rumpf, T., Schiedel, M., Karaman, B., *et al*. Selective Sirt2 inhibition by ligand-induced rearrangement of the active site. *Nat. Commun.* **6**, (2015).

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