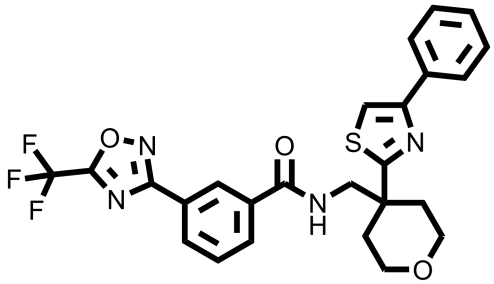
Xcess Biosciences Inc.
7144 N Harlem Ave #169
Chicago, IL 60631 USA

http://www.xcessbio.com
Toll free: 1-866-706-2330
Fax: 1-619- 810-0718
Email: info@xcessbio.com

Class IIa HDAC Inhibitor – TMP269

Chemical Name: N-((4-(4-phenylthiazol-2-yl)tetrahydro-2H-pyran-4-yl)methyl)-3-(5-(trifluoromethyl)-1,2,4-oxadiazol-3-yl)benzamide



Molecular Weight:	514.52
Formula:	$C_{25}H_{21}F_3N_4O_3S$
Purity:	≥98%
CAS#:	1314890-29-3
Solubility:	DMSO up to 50 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

TMP269 is a highly potent, selective and cell-permeable class IIa HDAC inhibitor with IC_{50} of 126 nM, 80 nM, 36 nM and 19 nM for HDAC4, HDAC5, HDAC7 and HDAC9 respectively. It has very weak or no activity targeting the other HDACs (2-40 μM). TMP269 has an unprecedented metal-binding group, trifluoromethyloxadiazole (TFMO), which circumvents the selectivity and pharmacologic liabilities of hydroxamates. Crystallography revealed a direct metal binding of the TFMO, and the chemo-proteomics approach demonstrated the superior selectivity of TMP269 relative to the other hydroxamate-substituted analogs via a chelating zinc-binding group. TMP269 alters gene expression unlike class I and IIb HDAC inhibitors and affects colony-stimulating factor responses. The discovery of TMP269 provides an alternative design for targeting metalloenzymes than the conventional chelating metal-binding group, and suggests a therapeutic potential for class IIa HDAC inhibitors that are distinct in mechanism and application compared to current HDAC inhibitors.

How to Use:

In vitro: TMP269 was suggested to be used at 3 μM final concentration in vitro and in cellular assays.

In vivo: n/a

Reference:

1. Lobera M, et al. Selective class IIa histone deacetylase inhibition via a nonchelating zinc-binding group. (2013) Nat Chem Biol. 9(5):319-25.