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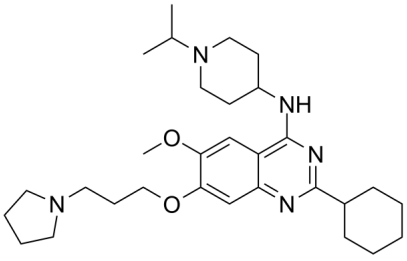
Certificate of Analysis

Catalog Number	BP12404
Product Name	UNC0638

Physical and Chemical Properties

CAS No.	1255580-76-7
Chemical Formula	C30H47N5O2
Molecular Weight	509.739
Solubility	DMSO: 93 mg/mL (182.4 mM) Ethanol: 93 mg/mL (182.4mM); H2O: 6 mg/mL (11.77 mM)
Storage	Powder: -20°C for 2 years In solvent: -80°C for 1 year
Chemical Structure OR Tested Image	

Product Information

Description	UNC0638 is an inhibitor of β-protein lysine methyltransferases G9a(IC50<15 nM) and GLP(IC50=19 nM) with excellent potency and selectivity over a wide range of epigenetic and non-epigenetic targets.

Targets&IC50	G9a:<15 nM, GLP:19 nM
In vitro	UNC0638 is a potent, selective and cell-penetrant chemical probe for G9a and GLP, with a toxicity/function ratio of >100, compared to <6 for BIX01294. UNC0638 is a selectivite inhibitor of G9a and GLP over a wide range of epigenetic and non-epigenetic targets. UNC0638 is more than 10,000-fold selective against SET7/9 (a H3K4 HMTase), SET8 (a H4K20 HMTase), PRMT3, and SUV39H2. In MDA-MB-231 cells, UNC0638 (48 h exposure) reduces H3K9me2 levels in a concentration-dependent manner with an IC50 of 81 nM. UNC0638 treatment of a variety of cell lines results in lower global H3K9me2 levels, equivalent to levels observed for small hairpin RNA knockdown of G9a and GLP with the functional potency of UNC0638 being well separated from its toxicity. UNC0638 markedly reduces the clonogenicity of MCF7 cells, reduces the abundance of H3K9me2 marks at promoters of known G9a-regulated endogenous genes and disproportionately affected several genomic loci encoding microRNAs. In mouse embryonic stem cells, UNC0638 reactivates G9a-silenced genes and a retroviral reporter gene in a concentration-dependent manner without promoting differentiation.

Analytical Data

HPLC	Shows Min >99% purity
H-NMR	Consistent with structure
Stability and Solubility Advice	Information on product stability, especially in solution, has rarely been reported and in most cases we can only provide a general guideline. We recommend that once the stock solution has been prepared, it be stored in equal quantities in sealed vials and used within 1 month. Avoid repeated freezing and thawing cycles. Storage conditions for some special products should be referred to their storage details.

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