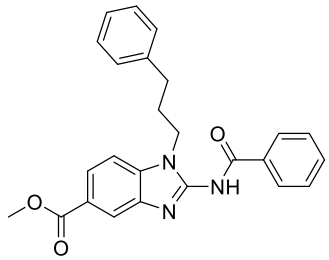
Product data sheet

MedKoo Cat#: 406572 Name: BRD4770 CAS#: 1374601-40-7 Chemical Formula: $C_{25}H_{23}N_3O_3$ Exact Mass: 413.17394 Molecular Weight: 413.47	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

BRD4770 is a novel histone methyltransferase inhibitor. BRD4770 reduced cellular levels of di- and trimethylated H3K9 without inducing apoptosis, induced senescence, and inhibited both anchorage-dependent and -independent proliferation in the pancreatic cancer cell line PANC-1. ATM-pathway activation, caused by either genetic or small-molecule inhibition of G9a, may mediate BRD4770-induced cell senescence. BRD4770 may be a useful tool to study G9a and its role in senescence and cancer cell biology.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	12.71	171.72
DMF	20.0	48.37
DMF:PBS (pH 7.2) (1:2)	0.25	0.60

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.42 mL	12.09 mL	24.19 mL
5 mM	0.48 mL	2.42 mL	4.84 mL
10 mM	0.24 mL	1.21 mL	2.42 mL
50 mM	0.05 mL	0.24 mL	0.48 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Vierra DA, Garzon JL, Rego MA, Adroved MM, Mauro M, Howlett NG. Modulation of the Fanconi anemia pathway via chemically induced changes in chromatin structure. Oncotarget. 2017 Jul 22;8(44):76443-76457. doi: 10.18632/oncotarget.19470. PMID: 29100324; PMCID: PMC5652718.
2. Yuan Y, Tang AJ, Castoreno AB, Kuo SY, Wang Q, Kuballa P, Xavier R, Shamji AF, Schreiber SL, Wagner BK. Gossypol and an HMT G9a inhibitor act in synergy to induce cell death in pancreatic cancer cells. Cell Death Dis. 2013 Jun 27;4(6):e690. doi: 10.1038/cddis.2013.191. PMID: 23807219; PMCID: PMC3702302.

In vivo study

N/A

7. Bioactivity

Biological target:

Product data sheet

BRD4770 is a histone methyltransferase G9a inhibitor.

In vitro activity

This study observed greatly elevated levels of monoubiquitinated FANCD2 and FANCI in the chromatin fraction of cells treated with BRD4770 alone (Figure 2A, compare lanes 3 and 9). This study observed a striking increase in the percentage of nuclei exhibiting greater than 5 FANCD2 foci in both U2OS and BJ-TERT cells following BRD4770 treatment (Figure 2B and Supplementary Figure 1A and 1B). Levels of FANCD2 nuclear foci formation in cells treated with BRD4770 alone were comparable to that observed following MMC treatment (Supplementary Figure 1A and 1B). These results identify BRD4770 as a major inducer of FANCD2 monoubiquitination and nuclear foci formation and strongly suggest that changes in histone methylation status are a critical determinant in the activation of the FA pathway. Consistent with BRD4770 functioning via the modification of chromatin structure, this study observed a distinct change in the staining pattern of the heterochromatin marker HP1α following BRD4770 treatment (Supplementary Figure 1C).

Reference: Oncotarget. 2017 Sep 29; 8(44): 76443–76457. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5652718/

In vivo activity

N/A

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.