# cis-BG47

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|---|---|
| **Cat. No.:** | HY-117583 |
| **Molecular Formula:** | $C_{25}H_{22}N_4O_2S$ |
| **Molecular Weight:** | 442.53 |
| **Target:** | Histone Methyltransferase; HDAC |
| **Pathway:** | Epigenetics; Cell Cycle/DNA Damage |

**Storage:**

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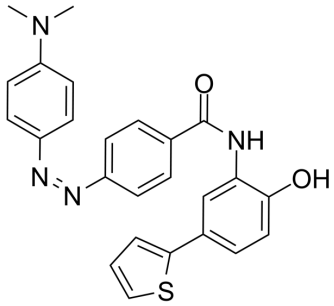
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |




## BIOLOGICAL ACTIVITY

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|---|---|
| **Description** | cis-BG47 is an cis-isomer of BG47, BG47 is a prototypical histone deacetylases HDAC1 and HDAC2 selective, optoepigenetic probe. BG47 can bind to and competitively inhibits the deacetylase activity of HDAC targets upon a light-induced trans-to-cis isomerization, and increases Histone Methyltransferase H3K9 acetylation. cis-BG47 can be used for neurological disease research[1]. |

| **$IC_{50}$ & Target** | HDAC1 | HDAC2 |
|---|---|---|

**In Vitro**

cis-BG47 is an cis-isomer of BG47, BG47 is activated to the active cis isomer by 470 nm light[1].

cis-BG47 (BG47) (10 μM, 16 hours) elevates H3K9 acetylation only in the presence of light and also significantly upregulates the expression of haploinsufficiency of progranulin (PGRN) only in the presence of light (25 ms on/75 ms off) in human neural progenitor cells (NPCs)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Immunofluorescence[1]

| | |
|---|---|
| Cell Line: | Human neural progenitor cells (NPCs) |
| Concentration: | 10 μM |
| Incubation Time: | 16 hours |
| Result: | Elevated H3K9 acetylation and significantly upregulated PGRN expression only in the presence of light (25 ms on/75 ms off). |

## REFERENCES

[1]. Reis SA, et al. Light-controlled modulation of gene expression by chemical optoepigenetic probes. Nat Chem Biol. 2016 May;12(5):317-23.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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