

## Product Data Sheet

Product Name: BMMP  
Cat. No.: GC78874

### Chemical Properties

Cas. No. 748785-70-8

Formula  $C_{13}H_{11}N_3S_2$  M.Wt 273.38

Solubility DMSO: 100 mg/mL (365.79 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



### Background

BMMP is an anti- HIV-1 agent and hnRNP M modulator. BMMP modulates hnRNP M function to suppress CD44 mRNA expression. BMMP induces abnormal uncoating of the HIV viral core at the post-entry step. BMMP suppresses migration of TGF- $\beta$  -stimulated lung carcinoma cells. BMMP suppresses HIV-1 reverse transcription and replication without inhibiting virion release. BMMP exerts anti-HIV-1 activity via a mechanism distinct from CA protein-binding heterocyclic compounds. BMMP can be used for the research of human immunodeficiency virus infection and non-small cell lung cancer [1] [2].

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

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In Vitro, BMMP (20  $\mu$ M; 2 d) does not reduce the viability of 293T or M8166 cells [1]. BMMP (20  $\mu$ M; 3 d) inhibits full-cycle HIV-1 replication across 293T and M8166 cells to 30% of control levels[1]. BMMP (20  $\mu$ M) does not affect the release of HIV-1 virions from 293T cells[1]. BMMP (20  $\mu$ M; 1 d) does not significantly alter the infectivity of HIV-1 virions produced by 293T cells[1]. BMMP (20  $\mu$ M; 1 d) potentially inhibits early-phase HIV-1 infectivity in M8166 cells to less than 10% of control levels[1]. BMMP (20  $\mu$ M; 2 d) does not affect HIV-1 reverse transcription but suppresses nuclear localization and integration of viral DNA in 293T cells, reducing 2-LTR DNA to 60% and Alu-LTR DNA to 46% of control levels[1]. BMMP (20  $\mu$ M; 1 d) destabilizes HIV-1 CA protein in infected HeLa cells [1]. BMMP (20  $\mu$ M; 1 d) does not change the nuclear localization of hnRNP M but reduces HIV-1 CA protein levels in infected HeLa cells[1]. BMMP (20  $\mu$ M; 1 d) inhibits early-phase HIV-1 infectivity in both control and hnRNP M-knockdown HeLa cells, indicating hnRNP M is not involved in BMMP's anti-HIV activity[1]. BMMP (0.1-100  $\mu$ M; 2 d) at 0.1-50  $\mu$ M does not reduce A549 cell viability, while 100  $\mu$ M BMMP shows mild toxicity[1]. BMMP (0.1-100  $\mu$ M; 24 h total incubation with TGF- $\beta$  stimulation) inhibits TGF- $\beta$ -induced migration of A549 cells in a concentration-dependent manner, with near-complete inhibition at 20  $\mu$ M[1]. BMMP (20  $\mu$ M; 1 h, 3 h, 6 h, or 1 d incubation with TGF- $\beta$  stimulation) slightly reduces vimentin mRNA levels but does not inhibit TGF- $\beta$ -induced EMT marker changes in A549 cells[1]. BMMP (20  $\mu$ M; 1 d incubation with TGF- $\beta$  stimulation) reduces TGF- $\beta$ -induced increases in CD44s, CD44v8, and CD44v10 mRNA levels in A549 cells[1]. BMMP (20  $\mu$ M; 1 d incubation with TGF- $\beta$  stimulation) reduces TGF- $\beta$ -induced CD44 mRNA expression in A549 cells via hnRNP M, as the effect is abolished in hnRNP M-knockdown cells[1]. BMMP (20  $\mu$ M; up to 100 hours) inhibits replication of HIV-1 NL4-3 strain in human T-lymphoblastoid M8166 cells[2]. BMMP does not directly interact with HIV-1 Pr55Gag or CA protein in a cell-free surface plasmon resonance assay[2].

### References:

- [1]. Kamo M, et al. Discovery of anti-cell migration activity of an anti-HIV heterocyclic compound by identification of its binding protein hnRNP M. *Bioorg Chem.* 2021;107:104627.
- [2]. Kamo M, et al. Synthesis of the biotinylated anti-HIV compound BMMP and the target identification study. *Bioorg Med Chem Lett.* 2016;26(1):43-45.

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