

Product Data Sheet

Product Name: HBS-101

Cat. No.: GC78981

Chemical Properties

Cas. No.

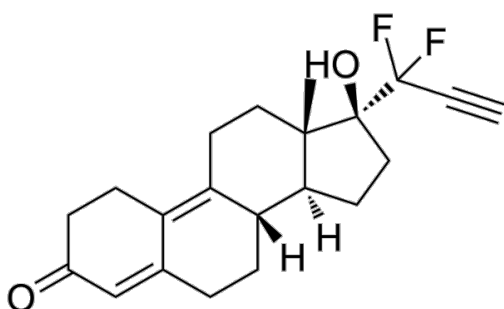
Formula $C_{21}H_{24}F_2O_2$ M.Wt 346.41

Solubility DMSO: 100 mg/mL (288.68 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

HBS-101 is a selectively, orally active, brain-penetrant, Midkine (MDK) inhibitor ($K_D = 38.4$ nM). HBS-101 significantly reduces cell viability, clonogenic survival, and invasiveness and increases apoptosis. HBS-101 involves suppression of the Akt/mTOR, STAT3, and NF- κ B pathways. HBS-101 can be used for the study of Triple-negative breast cancer (TNBC) [1].

In Vivo, HBS-101 (1 mg/kg (i.v.), 10 mg/kg (p.o.)) has rapid in vivo disposition kinetics and extremely high oral bioavailability in rats [1]. HBS-101 (10 mg/kg, i.p.) can be rapidly absorbed and effectively

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

penetrates the blood-brain barrier in mice^[1]. HBS-101 (2-10 mg/kg, p.o., 5 days) doses up to 10 mg/kg (oral) for 5 consecutive days are safe and do not produce observable organ toxicity in mice^[1]. HBS-101 (2 mg/kg, 5 mg/kg, p.o., 5 days) effectively inhibits the growth of TNBC orthotopic tumors with oral administration, and 5 mg/kg is determined to be the minimum effective dose in mice^[1]. HBS-101 (5 mg/kg, p.o., 5 days a week) reduces the proliferative activity of tumors in MDA-MB-231 cells xenograft mice^[1]. HBS-101 (10 mg/kg, i.p., 5 days a week) exhibits potent anti-tumor activity in a brain metastasis model in mice^[1].

In Vitro, HBS-101 (0.1-10 μ M, 5 days) significantly reduces cell viability of TNBC cell lines^[1]. HBS-101 (0-5 μ M) reduces the colony-forming ability of TNBC cells in a dose-dependent manner^[1]. HBS-101 (20 μ M, 24 h) induces apoptosis in TNBC cells, but not in normal mammary epithelial cells^[1]. HBS-101 (20 μ M, 20 h) significantly reduces the expression of MDK receptors, specifically Notch2, in HCC-70 cells; inhibits downstream signaling pathways, including mTOR, STAT3, and NF- κ B; and increases cleaved caspase-3 levels^[1]. HBS-101 (20 μ M, 24 h) downregulates MDK target genes and significantly reduces STAT3 and NF- κ B reporter activity in TNBC cells that stably express these reporters^[1].

References:

[1]. Mahajan M, et al. The Discovery and Characterization of HBS-101, a Novel Inhibitor of Midkine, as a Therapeutic Agent for the Treatment of Triple-Negative Breast Cancer. Mol Cancer Ther. 2025 Sep 2;24(9):1308-1319.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA