**Product Description**

JIB-04 is an epigenetic modifier that is a pan-selective inhibitor of Jumonji histone demethylase enzymes. It inhibits members of the family in the high nanomolar range with IC$_{50}$ values of 230, 340, 435, 445, 855, and 1100 nM for JARID1A, JMJD2E, JMJD2B, JMJD2A, JMJD3, and JMJD2C, respectively. It shows no activity against histone deacetylases and minimal effects against iron-containing enzymes methylcytosine dioxygenase TET1 and prolyl hydroxylases (Easmon et al.; Wang et al.).

**Molecular Name:** JIB-04  
**Alternative Names:** JHDM Inhibitor VII; NSC 693627  
**CAS Number:** 199596-05-9  
**Chemical Formula:** C$_{17}$H$_{13}$ClN$_4$  
**Molecular Weight:** 308.8 g/mol  
**Purity:** ≥ 95%  
**Chemical Name:** phenyl-2-pyridinyl-methanone, (E,E)-2-(5-chloro-2-pyridinyl)hydrazine

---

**Properties**

**Physical Appearance:** A crystalline solid  
**Storage:** Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.  
**Solubility:**  
- DMSO ≤ 15 mM  
- Absolute ethanol ≤ 3 mM  

For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 3.24 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

CANCER RESEARCH
- Inhibits proliferation in a variety of human tumor cell lines (Easmon et al.).
- Selectively toxic to lung or prostate cancer cells in vitro, and not to normal cells of the same cell type or to normal control lines isolated from the same patient (Wang et al.).
- Reduces tumor burden and prolongs survival in a mouse model of breast cancer (Wang et al.).

References


Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.