Small Molecules

BMN 673

Poly ADP ribose polymerase (PARP) inhibitor

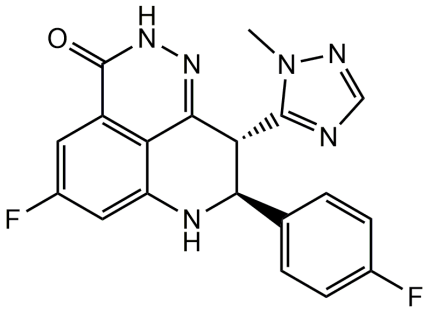
Catalog #100-1129

10 mg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

BMN 673 is a poly ADP ribose polymerase (PARP) inhibitor (PARP1 IC_{50} = 0.57 nM; Shen et al.). BMN 673 is an inhibitor of PARP in cancer cells with BRCA1, BRCA2, or PTEN mutations (Shen et al.). BMN 673 binds to PARP and prevents PARP-mediated repair of single-strand DNA breaks, leading to DNA damage (Shen et al.).

Alternative Names:	Talazoparib
CAS Number:	1207456-01-6
Chemical Formula:	$C_{19}H_{14}F_2N_6O$
Molecular Weight:	380.4 g/mol
Purity:	≥ 98%
Chemical Name:	(8S,9R)-5-fluoro-8-(4-fluorophenyl)-2,7,8,9-tetrahydro-9-(1-methyl-1H-1,2,4-triazol-5-yl)-3H-pyrido [4,3,2-de]phthalazin-3-one
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	• DMSO ≤ 50 mM • Absolute ethanol ≤ 655 µM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 2.63 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 or absolute ethanol concentration above 0.1% due to potential cell toxicity.

Published Applications

CANCER RESEARCH
· Traps PARP1 at the DNA damage site and induces cytotoxic effects in breast cancer cells (Sethy & Kundu).
· Increases the number of CD8+ T cells and NK cells, as well as production of IFN-γ and TNF-α, to inhibit growth of BRCA1-deficient murine epithelial ovarian cancer cell line BR5FVB1-Akt (Huang et al.).
· Inhibits BRCA2-associated pancreatic ductal adenocarcinoma (PDAC) growth in a PDAC murine xenograft model (Andrei et al.).

References

Andrei AZ et al. (2015) Increased in vitro and in vivo sensitivity of BRCA2-associated pancreatic cancer to the poly (ADP-ribose) polymerase-1/2 inhibitor BMN 673. Cancer Lett 364(1): 8–16.

Huang J et al. (2015) The PARP1 inhibitor BMN 673 exhibits immunoregulatory effects in a BRCA1 –/– murine model of ovarian cancer. Biochem Biophys Res Commun 463(4): 551–6.

Sethy C & Kundu CN. (2022) PARP inhibitor BMN-673 induced apoptosis by trapping PARP-1 and inhibiting base excision repair via modulation of pol-β in chromatin of breast cancer cells. Toxicol Appl Pharmacol 436: 115860.

Shen Y et al. (2013) BMN 673, a novel and highly potent PARP1/2 inhibitor for the treatment of human cancers with DNA repair deficiency. Clin Cancer Res 19(18): 5003–15.

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.

This product is hazardous. Please refer to the Safety Data Sheet (SDS).