

PRODUCT SPECIFICATION SHEET

Product Name Stemolecule™ SB590885

Description The triarylimidazole derivative SB590885 is a potent ($K_{i,app} < 0.2$ nM) for and selective (>10-fold selectivity against C-RAF) inhibitor of B-RAF kinase¹. SB590885 blocks MAPK activation, proliferation, transformation, and tumorigenicity of B-RAF-expressing malignant cells. SB590885 has been shown to support the conversion and maintenance of human naïve stem cells².

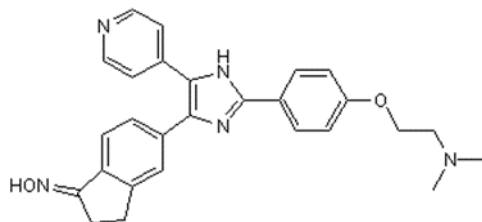
Catalog Number 04-0080

Size 2 mg

Alternate Name 5-(2-(4-(2-Dimethylaminoethoxy)phenyl)-5-(4-pyridinyl)-1H-imidazol-4-yl)-2,3-dihydro-1H-inden-1-one oxime

Chemical Formula $C_{27}H_{27}N_6O_2$

Structure



Molecular Weight 453.54

CAS Number 405554-55-4

Purity >99% by HPLC analysis

Appearance Light yellow to yellow color solid

Solubility SB590885 is soluble in DMSO at 100 mM and in ethanol at 1 mM at room temperature. For a 10 mM concentrated stock solution of SB590885 in DMSO, reconstitute the compound by adding 441 μ L of DMSO to the entire contents of the vial. If precipitate is observed, warm the solution to 37 °C for 2 to 5 minutes. For cell culture, the media should be pre-warmed prior to adding the reconstituted compound. The maximum concentration recommended for dilution in media to ensure complete solubility is 10 μ M. Note: for most cells, the maximum tolerance to DMSO is less than 0.5% by volume.

Storage and Stability Store powder for up to six months at 4 °C, protected from light. Following reconstitution, store aliquots at -20 °C.

Quality Control The purity of SB590885 was determined by HPLC analysis. The accurate mass was determined by mass spectrometry. Cellular toxicity of SB590885 was tested on mouse embryonic stem cells.

References

1. King AJ, Patrick DR, Batorsky RS, Ho ML, Do HT, Zhang SY, Kumar R, Rusnak DW, Takle AK, Wilson DM, Hugger E, Wang L, Karreth F, Loughheed JC, Lee J, Chau D, Stout TJ, May EW, Rominger CM, Schaber MD, Luo L, Lakdawala AS, Adams JL, Contractor RG, Smalley KS, Herlyn M, Morrissey MM, Tuveson DA, Huang PS. "Demonstration of a genetic therapeutic index for tumors expressing oncogenic BRAF by the kinase inhibitor SB-590885." *Cancer Res.* 66(23):11100-5 (2006).
2. Theunissen TW, Powell BE, Wang H, Mitalipova M, Faddah DA, Reddy J, Fan ZP, Maetzel D, Ganz K, Shi L, Lungiangwa T, Imsoonthornruksa S, Stelzer Y, Rangarajan S, D'Alessio A, Zhang J, Gao Q, Dawlaty MM, Young RA, Gray NS, Jaenisch R. "Systematic identification of culture conditions for induction and maintenance of naïve human pluripotency." *Cell Stem Cell* 15(4):471-87 (2014).