

Product Data Sheet

Product Name: TA 01
Cat. No.: GC13825

Chemical Properties

Cas. No. 1784751-18-3

Chemical Name 4-(2-(2,6-difluorophenyl)-4-(4-fluorophenyl)-1H-imidazol-5-yl)pyridine

SMILES FC1=CC=C(C2=C(C3=CC=NC=C3)NC(C4=C(F)C=CC=C4F)=N2)C=C1

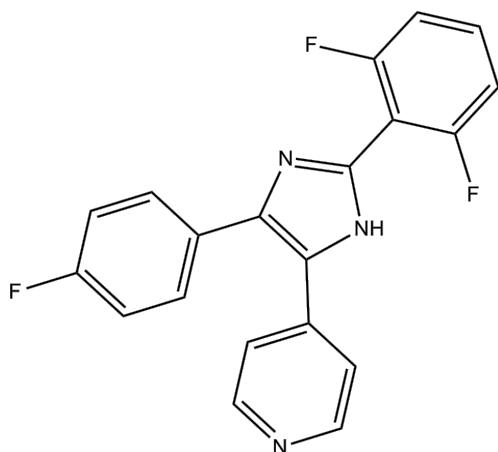
Formula $C_{20}H_{12}F_3N_3$ M.Wt 351.32

Solubility $\geq 12.75\text{mg/mL}$ in DMSO with gentle warming 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



Protocol

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

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Kinase experiment: Compounds (TA-01) are dissolved in DMSO and tested at 10 μ M concentrations against a panel of 97 kinases, which are related to stem cell differentiation and cell signaling pathways. Kinome profiling is carried out by kinase profiling service[1].

Cell experiment: HES-3, H7 and IPS are harvested and seeded at 1.1×10^6 cells/mL as EBs in ultra-low attachment 12-well plates in bSFS medium: DMEM supplemented with 2 mM L-glutamine, 0.182 mM sodium pyruvate, 1% non-essential amino acids, 0.1 mM β -mercaptoethanol, 5.6 mg/L transferrin, 20 μ g/L sodium selenite, 0.25% (w/vol) Bovine Serum Albumin and 0.25% (w/vol) Hysoy. Cells are incubated at 37°C and 5% CO₂ to allow EB formation. The medium is refreshed after 1 day and then every 2-3 days. Cells are stimulated with the respective compounds (TA-01) dissolved in DMSO (1 μ L DMSO/mL of media) starting from day 1 or day 4, until day 8. CHIR99021 is applied for the first 24 h only[1].

References:

[1]. Laco F, et al. Cardiomyocyte differentiation of pluripotent stem cells with SB203580 analogues correlates with Wnt pathway CK1 inhibition independent of p38 MAPK signaling. J Mol Cell Cardiol. 2015 Mar;80:56-70.

Background

TA-01 is a potent CK1 and p38 MAPK inhibitor, with IC₅₀s of 6.4 nM, 6.8 nM, 6.7 nM for CK1 ϵ , CK1 δ and p38 MAPK, respectively.

TA-01 is a potent CK1 and p38 MAPK inhibitor, with IC₅₀s of 6.4 nM, 6.8 nM, 6.7 nM for CK1 ϵ , CK1 δ and p38 MAPK, respectively. TA-01 (5 μ M) is not cytotoxic, completely inhibits cardiogenesis, but induces cardiogenesis at lower concentration[1].

Reference:

[1]. Laco F, et al. Cardiomyocyte differentiation of pluripotent stem cells with SB203580 analogues correlates with Wnt pathway CK1 inhibition independent of p38 MAPK signaling. J Mol Cell Cardiol.

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