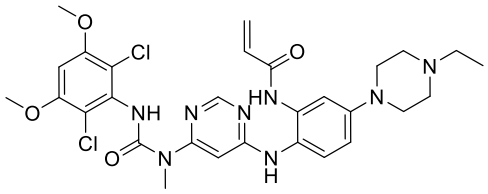
Product data sheet

MedKoo Cat#: 407449 Name: H3B-6527 CAS#: 1702259-66-2 Chemical Formula: $C_{29}H_{34}Cl_2N_8O_4$ Exact Mass: 628.208 Molecular Weight: 629.543	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
H3B-6527 is a potent and orally active FGFR4 inhibitor with potential antineoplastic activity. Upon administration, H3B-6527 specifically binds to and blocks FGFR4. This prevents the activation of FGFR4, inhibits FGFR4-mediated signaling and leads to an inhibition of cell proliferation in FGFR4-overexpressing tumor cells.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	50.0	79.42

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.59 mL	7.94 mL	15.88 mL
5 mM	0.32 mL	1.59 mL	3.18 mL
10 mM	0.16 mL	0.79 mL	1.59 mL
50 mM	0.03 mL	0.16 mL	0.32 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Xin Z, Song X, Jiang B, Gongsun X, Song L, Qin Q, Wang Q, Shi M, Liu X. Blocking FGFR4 exerts distinct anti-tumorigenic effects in esophageal squamous cell carcinoma. Thorac Cancer. 2018 Dec;9(12):1687-1698. doi: 10.1111/1759-7714.12883. Epub 2018 Sep 28. PMID: 30267473; PMCID: PMC6275831.
2. Joshi JJ, Coffey H, Corcoran E, Tsai J, Huang CL, Ichikawa K, Prajapati S, Hao MH, Bailey S, Wu J, Rimkunas V, Karr C, Subramanian V, Kumar P, MacKenzie C, Hurley R, Satoh T, Yu K, Park E, Rioux N, Kim A, Lai WG, Yu L, Zhu P, Buonamici S, Larsen N, Fekkes P, Wang J, Warmuth M, Reynolds DJ, Smith PG, Selvaraj A. H3B-6527 Is a Potent and Selective Inhibitor of FGFR4 in FGF19-Driven Hepatocellular Carcinoma. Cancer Res. 2017 Dec 15;77(24):6999-7013. doi: 10.1158/0008-5472.CAN-17-1865. PMID: 29247039.

In vivo study

1. Xin Z, Song X, Jiang B, Gongsun X, Song L, Qin Q, Wang Q, Shi M, Liu X. Blocking FGFR4 exerts distinct anti-tumorigenic effects in esophageal squamous cell carcinoma. Thorac Cancer. 2018 Dec;9(12):1687-1698. doi: 10.1111/1759-7714.12883. Epub 2018 Sep 28. PMID: 30267473; PMCID: PMC6275831.
2. Joshi JJ, Coffey H, Corcoran E, Tsai J, Huang CL, Ichikawa K, Prajapati S, Hao MH, Bailey S, Wu J, Rimkunas V, Karr C, Subramanian V, Kumar P, MacKenzie C, Hurley R, Satoh T, Yu K, Park E, Rioux N, Kim A, Lai WG, Yu L, Zhu P, Buonamici S, Larsen N, Fekkes P, Wang J, Warmuth M, Reynolds DJ, Smith PG, Selvaraj A. H3B-6527 Is a Potent and Selective Inhibitor of

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7. Bioactivity

Biological target:

H3B-6527 is a covalent FGFR4 inhibitor with an IC50 value of <1.2 nM and at least 250-fold selectivity over FGFR1-3 (IC50 values of 320, 1,290 and 1,060 nM respectively).

In vitro activity

H3B-6527 treatment resulted in a GI50 value (concentration of inhibitor that led to a 50% reduction in viability) of 25 nmol/L (Fig. 2E). Furthermore, H3B-6527 treatment of Hep3B cells led to robust activation of caspase-3/7, an apoptotic marker, in a concentration-dependent manner, indicating FGFR4 inhibition by H3B-6527 leads to cell death in HCC cell lines (Fig. 2F). In summary, these data show that H3B-6527 inhibits proliferation and leads to apoptosis in a HCC cell line by inhibiting FGFR4 signaling.

Reference: Cancer Res. 2017 Dec 15;77(24):6999-7013. https://cancerres.aacrjournals.org/content/77/24/6999.long

In vivo activity

Furthermore, ESCC tumors in nude mice responded to H3B-6527 treatment with an apparent slowing of growth. At 20 days of H3B-6527 treatment, the speed of ESCC tumor growth was reduced and the tumor volume was significantly smaller. On the contrary, the control group treated with physiological saline exhibited no significant inhibitory effects. These findings indicate that FGFR4 blocking is effective in inhibiting the growth and survival of ESCC cancer cells in xenograft models. A dose-response effect of tumor regression may be achieved with higher doses of H3B-6527 administered for longer periods (20 days). The effectiveness of H3B-6527 in ESCC tumor xenografts may be linked to the blocking of FGFR4 in human ESCC cancers. Therefore, FGFR4 may become a potential target and H3B‐6527 may be useful for ESCC cancer patients with FGFR4 overexpression.

Reference: Thorac Cancer. 2018 Dec; 9(12): 1687–1698. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6275831/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.