

Product data sheet



MedKoo Cat#: 406531 Name: Kobe0065 CAS#: 436133-68-5 Chemical Formula: C ₁₅ H ₁₁ ClF ₃ N ₅ O ₄ S Exact Mass: 449.01724 Molecular Weight: 449.79	
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:

Kobe0065 is a small-molecule Ras inhibitors that display antitumor activity by blocking the Ras-effector interaction. Kobe0065 binds to Ras-GTP, blocking interactions with Raf kinase. Kobe0065 inhibits anchorage-dependent and -independent growth, blocks MEK/ERK activity and induces apoptosis in H-rasG12V transformed NIH3T3 cells. Kobe0065 also inhibits tumor growth in SW480 colon cancer cell xenografts.

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	50.5	112.27
DMSO:PBS (pH 7.2) (1:1)	0.5	1.11
DMF	10.0	22.23
Ethanol	9.0	20.01

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.22 mL	11.12 mL	22.23 mL
5 mM	0.44 mL	2.22 mL	4.45 mL
10 mM	0.22 mL	1.11 mL	2.22 mL
50 mM	0.04 mL	0.22 mL	0.44 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. Yoshikawa Y, Takano O, Kato I, Takahashi Y, Shima F, Kataoka T. Ras inhibitors display an anti-metastatic effect by downregulation of lysyl oxidase through inhibition of the Ras-PI3K-Akt-HIF-1 α pathway. *Cancer Lett.* 2017 Dec 1;410:82-91. doi: 10.1016/j.canlet.2017.09.017. Epub 2017 Sep 23. PMID: 28951129.

In vivo study

1. Zhang Y, Wang Z, Ma X, Yang S, Hu X, Tao J, Hou Y, Bai G. Glycyrrhetic acid binds to the conserved P-loop region and interferes with the interaction of RAS-effector proteins. *Acta Pharm Sin B.* 2019 Mar;9(2):294-303. doi: 10.1016/j.apsb.2018.11.002. Epub 2018 Nov 27. PMID: 30976491; PMCID: PMC6438844.

7. Bioactivity

Biological target:

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Kobe0065 is an inhibitor of Ras-Raf interaction, competitively inhibiting the binding of H-Ras·GTP to c-Raf-1 RBD with a Ki value of $46 \pm 13 \mu\text{M}$.

In vitro activity

This study first examined the effect of Kobe0065, the most potent inhibitor among the Kobe0065-family compounds, on LOX (lysyl oxidase) expression in three human cancer cell lines, SW620 carrying the K-*ras*^{G12V}, Panc-1 carrying the K-*ras*^{G12D} and BxPC-3 carrying the wild-type *ras* in 2D culture. These cell lines showed high expression of 46-kDa prepro-LOX, which was effectively downregulated by treatment with 20 μM Kobe0065 in SW620 and Panc-1 but not BxPC-3 (Fig. 1A).

Reference: Cancer Lett. 2017 Dec 1;410:82-91. <https://pubmed.ncbi.nlm.nih.gov/28951129/>

In vivo activity

The antitumour activity of GA (glycyrrhetic acid) was assessed using a xenograft of A549 cells in nude mice. The tumour size of the model group displayed a significant increase compared with the GA-treated mice (Fig. 5A and B). A high dose of GA inhibited tumour growth by 50%–60%, similar to animals treated with Kobe (Kobe0065). For the histological analysis, tumour tissue sections were stained with haematoxylin & eosin (H&E). Compared with the model group, the high-dose GA and Kobe groups exhibited an obviously ameliorated severity of necrosis and pyknosis in the nuclei of tumour cells.

Reference: Acta Pharm Sin B. 2019 Mar; 9(2): 294–303. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6438844/>

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.