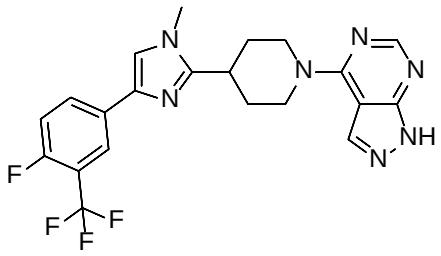
Product data sheet

MedKoo Cat#: 206867 Name: LY2584702 free base CAS: 1082949-67-4 (free base) Chemical Formula: $C_{21}H_{19}F_4N_7$ Exact Mass: 445.1638 Molecular Weight: 445.4256	
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:

LY-2584702, also known as LYS6K2, is an orally available inhibitor of p70S6K signaling, with potential antineoplastic activity. LY2584702 inhibits ribosomal protein S6 Kinase (p70S6K), and prevents phosphorylation of the S6 subunit of ribosomes, thereby inhibiting normal ribosomal function within tumor cells leading to a decrease in protein synthesis and in cellular proliferation. P70S6K, a serine/threonine kinase, acts downstream of PIP3 and phosphoinositide-dependent kinase-1 in the PI3 kinase pathway, is often upregulated in a variety of cancer cells, and is involved in the regulation of cell growth, proliferation, motility, and survival.

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	4.5	10.10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.25 mL	11.23 mL	22.45 mL
5 mM	0.45 mL	2.25 mL	4.49 mL
10 mM	0.22 mL	1.12 mL	2.25 mL
50 mM	0.05 mL	0.22 mL	0.45 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. Naito K, Kurihara K, Moteki H, Kimura M, Natsume H, Ogihara M. Effect of Selective Serotonin (5-HT)2B Receptor Agonist BW723C86 on Epidermal Growth Factor/Transforming Growth Factor-α Receptor Tyrosine Kinase and Ribosomal p70 S6 Kinase Activities in Primary Cultures of Adult Rat Hepatocytes. Biol Pharm Bull. 2019 Apr 1;42(4):631-637. doi: 10.1248/bpb.b18-00831. Epub 2019 Feb 1. PMID: 30713268.
2. Chen B, Yang L, Zhang R, Gan Y, Zhang W, Liu D, Chen H, Tang H. Hyperphosphorylation of RPS6KB1, rather than overexpression, predicts worse prognosis in non-small cell lung cancer patients. PLoS One. 2017 Aug 9;12(8):e0182891. doi: 10.1371/journal.pone.0182891. PMID: 28792981; PMCID: PMC5549961.

In vivo study

1. Estridge TB, Dey AB, Reidy C, Yu X, Zhang Y, Hartley M, Milligan PL, Jin N, Kowala MC, Leohr JK, Fretland AJ, Mabry TE, Luffer-Atlas D, Luo MJ. Identification of 4-Aminopyrazolopyrimidine Metabolite That May Contribute to the Hypolipidemic Effects of LY2584702 in Long Evans Diet-Induced Obese Rats. J Pharmacol Exp Ther. 2017 Jul;362(1):108-118. doi: 10.1124/jpet.117.240242. Epub 2017 May 2. PMID: 28465372.

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7. Bioactivity

Biological target:

LY-2584702 free base is a selective ATP competitive inhibitor of p70S6K with an IC_{50} of 4 nM.

In vitro activity

To illustrate the underlying mechanism of RPS6KB1 phosphorylation in NSCLC, LY2584702 was employed to inhibit the RPS6KB1 phosphorylation specifically both in lung adenocarcinoma cell line A549 and squamous cell carcinoma cell line SK-MES-1. As expected, RPS6KB1 dephosphorylation remarkably suppressed cells proliferation in CCK-8 test, and promoted more cells arresting in G0-G1 phase by cell cycle analysis.

Reference: PLoS One. 2017 Aug 9;12(8):e0182891. https://pubmed.ncbi.nlm.nih.gov/28792981/

In vivo activity

In Long Evans diet-induced obese (DIO) rats, oral administration of LY2584702 for 3-4 weeks led to robust reduction of LDL-C up to 60%.

Reference: J Pharmacol Exp Ther. 2017 Jul;362(1):108-118. https://pubmed.ncbi.nlm.nih.gov/28465372/

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.