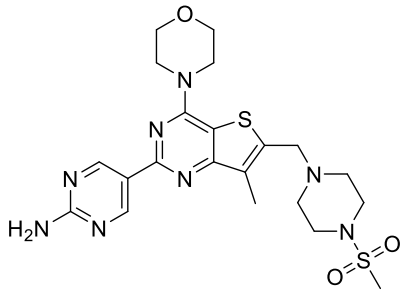
Product data sheet

MedKoo Cat#: 471024 Name: GNE-477 CAS: 1032754-81-6 Chemical Formula: $C_{21}H_{28}N_8O_3S_2$ Exact Mass: 504.1726 Molecular Weight: 504.628	
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:
GNE-477 is a dual inhibitor of PI3K (IC50 = 4 nM for PI3Kα) and mTOR (apparent Ki = 21 nM).

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	20.84	41.29

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.98 mL	9.91 mL	19.82 mL
5 mM	0.40 mL	1.98 mL	3.96 mL
10 mM	0.20 mL	0.99 mL	1.98 mL
50 mM	0.04 mL	0.20 mL	0.40 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. Wang Y, Shen H, Sun Q, Zhao L, Liu H, Ye L, Xu Y, Cai J, Li Y, Gao L, Tan Y, Liu B, Chen Q. The New PI3K/mTOR Inhibitor GNE-477 Inhibits the Malignant Behavior of Human Glioblastoma Cells. Front Pharmacol. 2021 Jul 26;12:659511. doi: 10.3389/fphar.2021.659511. PMID: 34381355; PMCID: PMC8350478.
2. Ye X, Ruan JW, Huang H, Huang WP, Zhang Y, Zhang F. PI3K-Akt-mTOR inhibition by GNE-477 inhibits renal cell carcinoma cell growth in vitro and in vivo. Aging (Albany NY). 2020 May 18;12(10):9489-9499. doi: 10.18632/aging.103221. Epub 2020 May 18. PMID: 32421688; PMCID: PMC7288912.

In vivo study

1. Wang Y, Shen H, Sun Q, Zhao L, Liu H, Ye L, Xu Y, Cai J, Li Y, Gao L, Tan Y, Liu B, Chen Q. The New PI3K/mTOR Inhibitor GNE-477 Inhibits the Malignant Behavior of Human Glioblastoma Cells. Front Pharmacol. 2021 Jul 26;12:659511. doi: 10.3389/fphar.2021.659511. PMID: 34381355; PMCID: PMC8350478.
2. Ye X, Ruan JW, Huang H, Huang WP, Zhang Y, Zhang F. PI3K-Akt-mTOR inhibition by GNE-477 inhibits renal cell carcinoma cell growth in vitro and in vivo. Aging (Albany NY). 2020 May 18;12(10):9489-9499. doi: 10.18632/aging.103221. Epub 2020 May 18. PMID: 32421688; PMCID: PMC7288912.

7. Bioactivity
Biological target:

GNE-477 is a potent and efficacious dual PI3K (IC_{50}=4 nM)/mTOR(K_i=21 nM) inhibitor.

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In vitro activity

GNE-477 exerted an obvious inhibitory effect on U87 and U251 cells, and the effect on the viability of the two cell lines was dose-dependent (Figures 1B,C).

Reference: Front Pharmacol. 2021 Jul 26;12:659511. https://pubmed.ncbi.nlm.nih.gov/34381355/

In vivo activity

Tumor growth curve results, Figure 4A, demonstrated that intraperitoneal (i.p.) injection of GNE-477, at 10 or 50 mg/kg (daily, for 3 weeks), potently inhibited RCC1 xenograft tumor growth in nude mice.

Reference: Aging (Albany NY). 2020 May 18;12(10):9489-9499. https://pubmed.ncbi.nlm.nih.gov/32421688/

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.