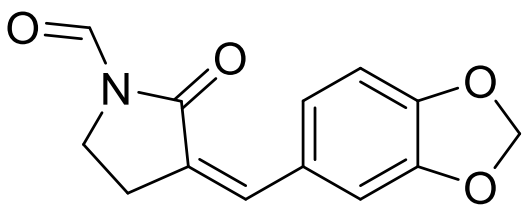


# Product data sheet



MedKoo Cat#: 558221 Name: KNK437 CAS: 218924-25-5 Chemical Formula: C <sub>13</sub> H <sub>11</sub> NO <sub>4</sub> Exact Mass: 245.0688 Molecular Weight: 245.234		
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:

KNK437 is a novel inhibitor of acquisition of thermotolerance and heat shock protein. KNK437 inhibit stress-induced synthesis of heat shock proteins (HSPs). KNK437 is an effective radiosensitizer that targets multiple pro-survival stress response pathways. KNK437 is a useful agent for enhancing the efficiency of hyperthermic therapy which has less toxic side-effects in prostate cancer.

## 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
DMF	10.0	40.78
DMF:PBS (pH 7.2) (1:5)	0.1	0.41
DMSO	19.42	79.18

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.08 mL	20.39 mL	40.78 mL
5 mM	0.82 mL	4.08 mL	8.16 mL
10 mM	0.41 mL	2.04 mL	4.08 mL
50 mM	0.08 mL	0.41 mL	0.82 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

- Sahin E, Sahin M, Sanlioğlu AD, Gümüşlü S. KNK437, a benzylidene lactam compound, sensitises prostate cancer cells to the apoptotic effect of hyperthermia. *Int J Hyperthermia*. 2011;27(1):63-73. doi: 10.3109/02656736.2010.528139. Epub 2011 Jan 4. PMID: 21204621.
- Matsuda K, Nakagawa SY, Nakano T, Asaumi J, Jagetia GC, Kawasaki S. Effects of KNK437 on heat-induced methylation of histone H3 in human oral squamous cell carcinoma cells. *Int J Hyperthermia*. 2006 Dec;22(8):729-35. doi: 10.1080/02656730601074375. PMID: 17391001.

### In vivo study

TBD

## 7. Bioactivity

### Biological target:

KNK437 is a HSP inhibitor, and inhibits the induction of HSP105, HSP70, and HSP40.

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## In vitro activity

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KNK437 and quercetin inhibited thermotolerance in a dose-dependent manner in PC-3 cells. KNK437 and quercetin decreased heat-induced accumulation of Hsp70 mRNA and protein in PC-3 and LNCaP cells. KNK437 and quercetin pretreatment enhanced the apoptotic effect of hyperthermia in both cells.

Reference: Int J Hyperthermia. 2011;27(1):63-73. <https://pubmed.ncbi.nlm.nih.gov/21204621/>

## In vivo activity

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TBD

*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.*