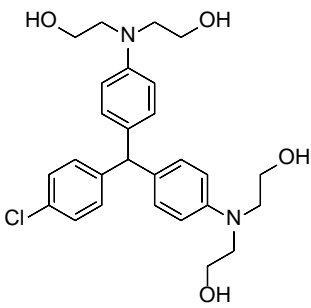


# Product data sheet



MedKoo Cat#: 555271 Name: LM22B-10 CAS: 342777-54-2 Chemical Formula: C <sub>27</sub> H <sub>33</sub> ClN <sub>2</sub> O <sub>4</sub> Exact Mass: 484.2129 Molecular Weight: 485.021	
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:

LM22B-10 is a TrkB and TrkC agonist. LM22B-10 exhibits neurotrophic activity (EC<sub>50</sub> = 200-300 nM). LM22B-10 improves survival and increases neurite outgrowth in hippocampal cells in vitro. LM22B-10 increased cell survival and strongly accelerated neurite outgrowth, superseding the effects of brain-derived neurotrophic factor (BDNF), NT-3 or the two combined.

## 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	30.0	61.85
DMSO	81.38	167.78
Ethanol	43.95	90.61

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.06 mL	10.31 mL	20.62 mL
5 mM	0.41 mL	2.06 mL	4.12 mL
10 mM	0.21 mL	1.03 mL	2.06 mL
50 mM	0.04 mL	0.21 mL	0.41 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. Yu F, Liu F, Luo JY, Zhao Q, Wang HL, Fang BB, Li XM, Yang YN. Targeted activation of ERK1/2 reduces ischemia and reperfusion injury in hyperglycemic myocardium by improving mitochondrial function. *Ann Transl Med.* 2022 Nov;10(22):1238. doi: 10.21037/atm-22-5149. PMID: 36544682; PMCID: PMC9761117.
2. Yang Y, Wu Y, Hou L, Ge X, Song G, Jin H. Heat shock protein 20 suppresses breast carcinogenesis by inhibiting the MAPK and AKT signaling pathways. *Oncol Lett.* 2022 Nov 3;24(6):462. doi: 10.3892/ol.2022.13582. PMID: 36380873; PMCID: PMC9650602.

### In vivo study

1. Xu X, Lu X, Chen L, Peng K, Ji F. Downregulation of MMP1 functions in preventing perineural invasion of pancreatic cancer through blocking the NT-3/TrkC signaling pathway. *J Clin Lab Anal.* 2022 Nov;36(11):e24719. doi: 10.1002/jcla.24719. Epub 2022 Sep 30. PMID: 36181286; PMCID: PMC9701873.
2. Wang D, Li Y, Dai L, Wang Y, Zhao C, Wang W, Zhang Y, Zhao Y, Yu T. 1,2,3,4,6-penta-O-galloyl-β-D-glucose alleviates inflammation and oxidative stress in diabetic nephropathy rats through MAPK/NF-κB and ERK/Nrf2/HO-1 signaling pathways. *Exp Ther Med.* 2022 Aug 26;24(4):639. doi: 10.3892/etm.2022.11576. PMID: 36160883; PMCID: PMC9468796.

# Product data sheet



## 7. Bioactivity

### Biological target:

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LM22B-10 is an activator of TrkB/TrkC neurotrophin receptor, and can induce TrkB, TrkC, AKT and ERK activation in vitro and in vivo.

### In vitro activity

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The cells were treated with LM22B-10 (an ERK activator) or transfected with the constitutive activation of the mitogen-activated protein kinase 1 (CaMEK) gene. Administering LM22B-10 or transfecting the CaMEK gene significantly activated the phosphorylation levels of ERK1/2 protein and reduced the proportion of cardiomyocyte apoptosis ( $P < 0.05$ ).

Reference: Ann Transl Med. 2022 Nov;10(22):1238. <https://pubmed.ncbi.nlm.nih.gov/36544682/>

### In vivo activity

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In vivo model of PNI (perineural invasion) was established via inoculating PANC-1 cells into mice. PANC-1 cells and mice were also treated with LM22B-10 (an activator of TrkC) to confirm the mechanisms involving NT-3/TrkC in PNI of PC both in vivo and in vitro. LM22B-10 partially abolished the effects of MMP1 knockdown both in vivo and in vitro.

Reference: J Clin Lab Anal. 2022 Nov;36(11):e24719. <https://pubmed.ncbi.nlm.nih.gov/36181286/>

*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.*