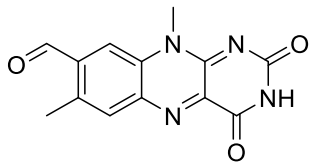
Product data sheet

MedKoo Cat#: 522399 Name: Ro 08-2750 CAS#: 37854-59-4 Chemical Formula: $C_{13}H_{10}N_4O_3$ Exact Mass: 270.07529 Molecular Weight: 270.25	
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:

Ro 08-2750 is a potent and selective Nerve growth factor (NGF) inhibitor that binds the NGF dimer (KD ~ 1 μM). NGF has potential effects on matrix turnover activity and influences the catabolic/anabolic balance of IVD cells in an adverse way that may potentiate IVD degeneration. Anti-NGF treatment might be beneficial to ameliorate progressive tissue breakdown in IVD degeneration and may lead to pain relief.

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	2.7	10.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.70 mL	18.50 mL	37.00 mL
5 mM	0.74 mL	3.70 mL	7.40 mL
10 mM	0.37 mL	1.85 mL	3.70 mL
50 mM	0.07 mL	0.37 mL	0.74 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. Minuesa G, Albanese SK, Xie W, Kazansky Y, Worroll D, Chow A, Schurer A, Park SM, Rotsides CZ, Taggart J, Rizzi A, Naden LN, Chou T, Gourkanti S, Cappel D, Passarelli MC, Fairchild L, Adura C, Glickman JF, Schulman J, Famulare C, Patel M, Eibl JK, Ross GM, Bhattacharya S, Tan DS, Leslie CS, Beuming T, Patel DJ, Goldgur Y, Chodera JD, Kharas MG. Small-molecule targeting of MUSASHI RNA-binding activity in acute myeloid leukemia. Nat Commun. 2019 Jun 19;10(1):2691. doi: 10.1038/s41467-019-10523-3. PMID: 31217428; PMCID: PMC6584500.
2. Li B, Cai S, Zhao Y, He Q, Yu X, Cheng L, Zhang Y, Hu X, Ke M, Chen S, Zou M. Nerve growth factor modulates the tumor cells migration in ovarian cancer through the WNT/β-catenin pathway. Oncotarget. 2016 Dec 6;7(49):81026-81048. doi: 10.18632/oncotarget.13186. PMID: 27835587; PMCID: PMC5348374.

In vivo study

1. Minuesa G, Albanese SK, Xie W, Kazansky Y, Worroll D, Chow A, Schurer A, Park SM, Rotsides CZ, Taggart J, Rizzi A, Naden LN, Chou T, Gourkanti S, Cappel D, Passarelli MC, Fairchild L, Adura C, Glickman JF, Schulman J, Famulare C, Patel M, Eibl JK, Ross GM, Bhattacharya S, Tan DS, Leslie CS, Beuming T, Patel DJ, Goldgur Y, Chodera JD, Kharas MG. Small-molecule targeting of MUSASHI RNA-binding activity in acute myeloid leukemia. Nat Commun. 2019 Jun 19;10(1):2691. doi: 10.1038/s41467-019-10523-3. PMID: 31217428; PMCID: PMC6584500.

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7. Bioactivity

Biological target:

Ro 08-2750 is a non-peptide and reversible nerve growth factor (NGF) inhibitor which binds to NGF, and with an IC50 of ~ 1 μM.

In vitro activity

Ro 08-2750, a small non-peptide molecule, was found to bind to NGF and dimer itself, which induces a concentration-dependent and time-dependent conformational change of NGF that depending on the cell types, cell growth conditions or combination form with receptors. This study found the decreased levels of β-catenin mRNA in the three cells induced by 100 ng/ml NGF can be up-regulated significantly by Ro 08-2750, K252a and LM11A-31.

Reference: Oncotarget. 2016 Dec 6; 7(49): 81026–81048. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5348374/

In vivo activity

Using healthy mice, this study also reported no changes in liver enzymes 24 h after Ro treatment (Supplementary Fig. 8g). Although there was no change in leukemia latency in this very aggressive model, disease progression was assessed in both treated and control groups when control mice and treated mice succumbed to disease (day 19 post-transplantation). The treated group exhibited a significant reduction in spleen weights (Fig. 6e), white blood cell counts (Fig. 6f) and c-MYC levels compared with the control group (Fig. 6g). These data support the concept that targeting MSI in vivo could have therapeutic efficacy in AML.

Reference: Nat Commun. 2019; 10: 2691. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6584500/

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.