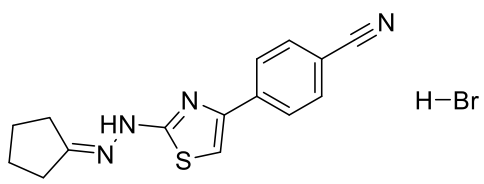
Product data sheet

MedKoo Cat#: 317135 Name: Remodelin HBr CAS#: 1622921-15-6 Chemical Formula: $C_{15}H_{15}BrN_4S$ Molecular Weight: 363.28	
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:

Remodelin is an inhibitor of N-acetyltransferase 10 (NAT10), which acetylates both histones and microtubules. It improves nuclear shape in HGPS (Hutchinson-Gilford progeria syndrome) cells and lamin A/C depleted cells. Remodelin improves nuclear architecture, chromatin organization, and survival of both cells lacking lamin A and cells from patients with progeria.

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	25	68.82
DMSO	25	68.82
Ethanol	0.5	1.38

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	2.75 mL	13.76 mL	27.53 mL
5 mM	0.55 mL	2.75 mL	5.51 mL
10 mM	0.28 mL	1.38 mL	2.75 mL
50 mM	0.06 mL	0.28 mL	0.55 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. Dalhat MH, Mohammed MRS, Ahmad A, Khan MI, Choudhry H. Remodelin, a N-acetyltransferase 10 (NAT10) inhibitor, alters mitochondrial lipid metabolism in cancer cells. J Cell Biochem. 2021 Dec;122(12):1936-1945. doi: 10.1002/jcb.30155. Epub 2021 Oct 4. PMID: 34605570.
2. Shrimp JH, Jing Y, Gamage ST, Nelson KM, Han J, Bryson KM, Montgomery DC, Thomas JM, Nance KD, Sharma S, Fox SD, Andressen T, Sinclair WR, Wu H, Allali-Hassani A, Senisterra G, Vedadi M, Lafontaine D, Dahlin JL, Marmorstein R, Walters MA, Meier JL. Remodelin Is a Cryptic Assay Interference Chemotype That Does Not Inhibit NAT10-Dependent Cytidine Acetylation. ACS Med Chem Lett. 2020 Jul 27;12(6):887-892. doi: 10.1021/acsmedchemlett.0c00193. PMID: 34141066; PMCID: PMC8201477.

In vivo study

1. Ma N, Liu H, Wu Y, Yao M, Zhang B. Inhibition of N-Acetyltransferase 10 Suppresses the Progression of Prostate Cancer through Regulation of DNA Replication. Int J Mol Sci. 2022 Jun 12;23(12):6573. doi: 10.3390/ijms23126573. PMID: 35743017; PMCID: PMC9223896.

2. Zhang Z, Zhang Y, Cai Y, Li D, He J, Feng Z, Xu Q. NAT10 regulates the LPS-induced inflammatory response via the NOX2-ROS-NF-κB pathway in macrophages. Biochim Biophys Acta Mol Cell Res. 2023 Jun 10:119521. doi: 10.1016/j.bbamcr.2023.119521. Epub ahead of print. PMID: 37307924.

7. Bioactivity

Biological target:

Remodelin is a 2-thiazolylhydrazone derivative that, at 10 μM, improves nuclear architecture, chromatin organization, and survival of both cells lacking lamin A and cells from patients with progeria. Remodelin is an inhibitor of N-acetyltransferase 10 (NAT10), which acetylates both histones and microtubules. Mutation of NAT10 mimics the effects of remodelin on nuclear morphology, suggesting that these effects of remodelin require NAT10.1 Remodelin also has cytotoxic effects against some species of the fungus Candida.

In vitro activity

This study found a statistically significant decrease in total cholesterol and triglycerides in Remodelin treated cancer cells. The results showed that Remodelin alters mitochondrial fatty acid metabolism and lipid accumulation in cancer cells.

Reference: J Cell Biochem. 2021 Dec;122(12):1936-1945. https://pubmed.ncbi.nlm.nih.gov/34605570/

In vivo activity

This study showed that Remodelin, an inhibitor of NAT10, effectively inhibits the growth of prostate cancer cells under either no castration or castration conditions, likely by impairing DNA replication.

Reference: Int J Mol Sci. 2022 Jun 12;23(12):6573. https://pubmed.ncbi.nlm.nih.gov/35743017/

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.