

Product data sheet



MedKoo Cat#: 329683 Name: Quinoxaline CAS: 91-19-0 Chemical Formula: C ₈ H ₆ N ₂ Exact Mass: 130.0531 Molecular Weight: 130.15	
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:

Quinoxaline, also called a benzopyrazine, is a heterocyclic compound containing a benzene ring and a pyrazine ring. Although quinoxaline itself is mainly of academic interest, quinoxaline derivatives are used as dyes, pharmaceuticals, and antibiotics such as olaquinox, carbadox, echinomycin, levomycin and actinoleutin.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	7.68 mL	38.42 mL	76.83 mL
5 mM	1.54 mL	7.68 mL	15.37 mL
10 mM	0.77 mL	3.84 mL	7.68 mL
50 mM	0.15 mL	0.77 mL	1.54 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

- Yang Y, Liu Q, Wang X, Gou S. Design, synthesis, and biological evaluation of novel HDAC inhibitors with a 3-(benzazol-2-yl)quinoxaline framework. *Bioorg Med Chem Lett*. 2023 May 15;88:129305. doi: 10.1016/j.bmcl.2023.129305. Epub 2023 Apr 26. PMID: 37116762.
- Feng LS, Gao C, Liu FW, Wang XP, Zhang ZL. Recent Updates on the Anticancer Activity of Quinoxaline Hybrids (Jan. 2017-Jan. 2022). *Curr Top Med Chem*. 2022;22(17):1426-1441. doi: 10.2174/1568026622666220428093955. PMID: 36028933.

In vivo study

- Hu B, Toda K, Wang X, Antczak MI, Smith J, Geboers S, Nishikawa G, Li H, Dawson D, Fink S, Desai AB, Williams NS, Markowitz SD, Ready JM. Orally Bioavailable Quinoxaline Inhibitors of 15-Prostaglandin Dehydrogenase (15-PGDH) Promote Tissue Repair and Regeneration. *J Med Chem*. 2022 Nov 24;65(22):15327-15343. doi: 10.1021/acs.jmedchem.2c01299. Epub 2022 Nov 2. PMID: 36322935; PMCID: PMC9885488.
- Chen NY, Lu K, Yuan JM, Li XJ, Gu ZY, Pan CX, Mo DL, Su GF. 3-Arylamino-quinoxaline-2-carboxamides inhibit the PI3K/Akt/mTOR signaling pathways to activate P53 and induce apoptosis. *Bioorg Chem*. 2021 Sep;114:105101. doi: 10.1016/j.bioorg.2021.105101. Epub 2021 Jun 19. PMID: 34175723.

7. Bioactivity

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Biological target:

Quinoxaline and its analogs have been investigated as catalyst ligands.

In vitro activity

A series of novel histone deacetylase (HDAC) inhibitors derived from 3-(benzazol-2-yl)quinoxaline derivatives were designed and synthesized in this study. In vitro results showed that compound 10c had the most potent cytotoxicity, especially in HCT-116 cells with an IC₅₀ value of 0.91 μ M, superior to Vorinostat (5.66 μ M). These results highlight the great potential of 10c to become a promising anti-cancer HDAC inhibitor.

Reference: Bioorg Med Chem Lett. 2023 May 15;88:129305. <https://pubmed.ncbi.nlm.nih.gov/37116762/>

In vivo activity

15-Prostaglandin dehydrogenase (15-PGDH) regulates the concentration of prostaglandin E2 in vivo. Inhibitors of 15-PGDH elevate PGE2 levels and promote tissue repair and regeneration. This study describes a novel class of quinoxaline amides that show potent inhibition of 15-PGDH, good oral bioavailability, and protective activity in mouse models of ulcerative colitis and recovery from bone marrow transplantation.

Reference: J Med Chem. 2022 Nov 24;65(22):15327-15343. <https://pubmed.ncbi.nlm.nih.gov/36322935/>

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.