

Product Datasheet

Pyridostatin

Catalog No. **BP-02314** · CAS **1085412-37-8** · Form **free base** · Physical state **solid** · Color **White to off-white** · Version **1.0** · Revision **2026-09-10**

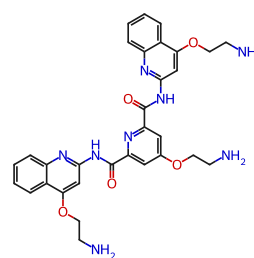
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Target G-quadruplex	Research area Cancer
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Molecular formula **C₃₁H₃₂N₈O₅**

Molecular weight **596.6364**

STRUCTURE



DESCRIPTION

Pyridostatin (RR82) is a G-quadruplex DNA stabilizing agent (K_d=490 nM). Pyridostatin promotes growth arrest in human cancer cells by inducing replication- and transcription-dependent DNA damage. Pyridostatin targets the proto-oncogene Src. Pyridostatin reduced SRC protein levels and SRC-dependent cellular motility in human breast cancer cells.

BIOLOGICAL ACTIVITY

In Vitro

Pyridostatin (RR82) (10 μM; 48 hours) induces cell cycle arrest.

Pyridostatin is a very selective G-quadruplex DNA-binding small molecule designed to form a complex with and stabilize G-quadruplex structure. Pyridostatin causes neurite retraction, synaptic loss, and dose-dependent neuronal death. In cultured primary neurons, Pyridostatin induces the formation of DNA DSBs. Remarkably, Pyridostatin (1-5 μM, overnight) downregulates the BRCA1 protein, a protein that guards and repairs the neuronal genome, at the transcriptional level.

SOLUBILITY

Soluble in DMSO

REFERENCES

- [1]. Rodriguez R, et al. Small-molecule-induced DNA damage identifies alternative DNA structures in human genes. Nat Chem Biol. 2012;8(3):301-310. Published 2012 Feb 5.
- [2]. Koirala D, et al. A single-molecule platform for investigation of interactions between G-quadruplexes and small-molecule ligands. Nat Chem. 2011;3(10):782-787. Published 2011 Aug 28.

[3]. Moruno-Manchon JF, Koellhoffer EC, Gopakumar J, et al. The G-quadruplex DNA stabilizing drug pyridostatin promotes DNA damage and downregulates transcription of Brca1 in neurons. *Aging (Albany NY)*. 2017;9(9):1957-1970.

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