

Product Data Sheet

Product Name: Neocarzinostatin

Cat. No.: GC64493

Chemical Properties

Cas. No. 9014-02-2

Formula

M.Wt

Solubility

Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

Neocarzinostatin

Background

Neocarzinostatin, a potent DNA-damaging, anti-tumor antibiotic, recognizes double-stranded DNA bulge and induces DNA double strand breaks (DSBs). Neocarzinostatin induces apoptosis. Neocarzinostatin has potential for EpCAM-positive cancers treatment [1][2].

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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The EpCAM aptamer conjugated Neocarzinostatin (NCS) shows specificity to EpCAM-positive cells. The effects of the conjugates on cancer cells are impressive as the conjugate arrests the cell cycle and promoted apoptosis and necrosis. The high levels of PARP expression confirmed the DNA breaks upon conjugate treatment. NCS conjugated with EpCAM can be targeted to cancer cells sparing normal cells[3]. The IC₅₀ values of Neocarzinostatin (72 hours) to C6 cells and U87MG cells were 493.64 nM, 462.96 nM, respectively[4]. In human tumor cell lines of different tissue origins, sensitivity to neocarzinostatin is proportional to the product of the relative contents of Bcl-2 and caspase-3[5].

- [1]. Athyala PK, et al. Probing the biophysical interaction between Neocarzinostatin toxin and EpCAM RNA aptamer. *Biochem Biophys Res Commun*. 2016 Jan 8;469(2):257-62.
- [2]. Allen Taylor, et al. Ubiquitination capabilities in response to neocarzinostatin and H₂O₂ stress in cell lines from patients with ataxia-telangiectasia. *Oncogene* (2002) 21, 4363- 4373.
- [3]. Athyala PK, et al. Neocarzinostatin, Aptamer Conjugates for Targeting EpCAM-positive Tumor Cells. *Anticancer Res*. 2017 Jul;37(7):3615-3629.
- [4]. Tianqin G, et al. Synergistic Anti-glioma Effects in Vitro and in Vivo of Eneidyne Antibiotic Neocarzinostatin and Paclitaxel via Enhanced Growth Delay and Apoptosis-Induction. *Biol Pharm Bull*. 2016 Oct 1;39(10):1623-1630.
- [5]. Rogers D, et al. Molecular predictors of human nervous system cancer responsiveness to enedyne chemotherapy.

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