

Product Data Sheet

Product Name: Prodigiosin hydrochloride

Cat. No.: GC65066

Chemical Properties

Cas. No. 56144-17-3

Formula C₂₀H₂₆ClN₃O M.Wt 359.89

Solubility DMSO : 10 mg/mL (27.79 mM; Need ultrasonic) Storage -20°C, away from moisture

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.

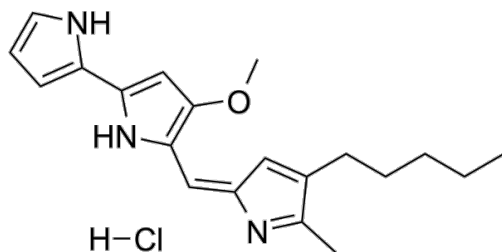
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Background

Prodigiosin (Prodigiosine) hydrochloride is a red pigment produced by bacteria as a bioactive secondary metabolite. Prodigiosin hydrochloride is a potent proapoptotic agent, and inhibits Wnt/ β -catenin pathway. Prodigiosin hydrochloride has antibacterial, antifungal, antiprotozoal, antimalarial, immunosuppressive, and anticancer properties[1][2].

Prodigiosin (25-500 nM; 24 hours) treatment reduces the viability of breast cancer cells, with IC₅₀ values at 48 h of 62.52 nM in MDA-MB-231 cells and 261.2 nM in MDA-MB-468 cells[1]. Prodigiosin (25-500 nM; 24 hours) treatment significantly reduces the levels of phosphorylated LRP6 and DVL2, active β -catenin, and total β -catenin. Prodigiosin noticeably inhibits the phosphorylation of GSK3 β at Ser9 in HEK293T cells, which is indicative of an increase in GSK3 β activity[1]. Prodigiosin can inhibit proliferation and induce apoptosis in breast cancer cells[1]. Prodigiosin (25-500 nM; 24 hours) treatment dose-dependently blocks Wnt signaling activated by Wnt1, Wnt3, Wnt1/LRP6, Wnt3/LRP6,

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and Dishevelled 2 (DVL2) in transfected HEK293T cells. Prodigiosin treatment inhibits Wnt3A-CM-induced transcription in a dose-dependent manner. Prodigiosin inhibits transcription of the SuperTopFlash reporter activated by either Wnt transfection or Wnt3A treatment[1]. When applied to cultures of chytrid fungi *Batrachochytrium dendrobatidis* and *B. salamandrivorans*, Prodigiosin causes significant growth inhibition, with MIC values of 10 μ M and 50 μ M, respectively[2].

Prodigiosin (5 mg/kg; intraperitoneal injection; twice weekly; for 3 weeks) treatment significantly inhibits tumor growth. Prodigiosin treatment decreases tumor cell density and expression of the proliferation marker Ki-67[1].

[1]. Wang Z, et al. Prodigiosin inhibits Wnt/ β -catenin signaling and exerts anticancer activity in breast cancer cells. *Proc Natl Acad Sci U S A*. 2016 Nov 15;113(46):13150-13155.

[2]. Woodhams DC, et al. Prodigiosin, Violacein, and Volatile Organic Compounds Produced by Widespread Cutaneous Bacteria of Amphibians Can Inhibit Two *Batrachochytrium* Fungal Pathogens. *Microb Ecol*. 2018 May;75(4):1049-1062.

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