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**Product Data Sheet**

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Product Name: Pentosan Polysulfate

Cat. No.: GC31685

**Chemical Properties**

Cas. No. 9062-57-1

SMILES [Pentosan Polysulfate]

Formula

M.Wt

Solubility DMSO : < 1 mg/mL (insoluble or slightly soluble); Water : < 0.1 mg/mL (insoluble) 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 **Protocol****Cell experiment:**

MT-4 and HUT-78 cells are cultured in microtray wells in the presence of pentosan polysulfate (0-2500 µg/mL) added immediately after infection with 100 CCID<sub>50</sub> of HIV-1 (CCID<sub>50</sub> being the 50% cell culture infective dose). After 5 days incubation at 37°C, the number of viable cells is determined by the 3'-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) method[1].

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

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### Animal experiment:

Mice with stable hyperglycemia at 18 months of age are selected for the study. Eighteen-month-old diabetic mice are randomly divided into pentosan polysulfate-treated (25 mg/kg/day in the drinking water) and control groups. Diabetic mice are followed for 4 months without insulin treatment. Mouse is housed individually and water intake is recorded every other day. Body weight and blood glucose levels are monitored weekly. Additionally, urine ketones are examined. Urine albumin excretion is measured bi-weekly[2]. One-month-old MPS VI rats are given once weekly sc injections of Pentosan Polysulfate (1, 2 and 4 mg/kg, human equivalent dose (HED)), or daily oral Pentosan Polysulfate (4 mg/kg HED) for 6 months. Serum inflammatory markers and total glycosaminoglycans (GAGs) are measured, as are several histological, morphological and functional endpoints[3].

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### References:

- [1]. Schuchman EH, et al. Pentosan polysulfate: a novel therapy for the mucopolysaccharidoses. PLoS One. 2013;8(1):e54459.
- [2]. Baba M, et al. Pentosan polysulfate, a sulfated oligosaccharide, is a potent and selective anti-HIV agent in vitro. Antiviral Res. 1988 Sep;9(6):335-43.
- [3]. Wu J, et al. Inhibition of inflammation by pentosan polysulfate impedes the development and progression of severe diabetic nephropathy in aging C57B6 mice. Lab Invest. 2011 Oct;91(10):1459-71.

### Background

Pentosan Polysulfate Sodium (PPS, Elmiron) is an orally bioavailable, semi-synthetic medication with anti-inflammatory and pro-chondrogenic properties. Pentosan Polysulfate Sodium also exhibits anti-HIV-1 activity.

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