

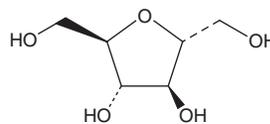
# PRODUCT INFORMATION



## 2,5-Anhydro-D-mannitol

Item No. 21673

**CAS Registry No.:** 41107-82-8  
**Formal Name:** (2R,3S,4S,5R)-2,5-bis(hydroxymethyl) tetrahydrofuran-3,4-diol  
**Synonyms:** 2,5-AHM, NSC 129241  
**MF:** C<sub>6</sub>H<sub>12</sub>O<sub>5</sub>  
**FW:** 164.2  
**Purity:** ≥95%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

2,5-Anhydro-D-mannitol (2,5-AHM) is supplied as a crystalline solid. A stock solution may be made by dissolving the 2,5-AHM in the solvent of choice, which should be purged with an inert gas. 2,5-AHM is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2,5-AHM in these solvents is approximately 5, 30, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 2,5-AHM can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 2,5-AHM in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

2,5-AHM is an antimetabolic fructose analogue that increases food intake in rats at doses of 50-800 mg/kg by inhibiting gluconeogenesis and glycogenolysis in the liver.<sup>1,2</sup> It is phosphorylated in the liver, which decreases available ATP and signals eating behavior in rats through a vagal nerve mechanism.<sup>3,4</sup>

### References

1. Tordoff, M.G., Rafka, R., DiNovi, M.J., *et al.* 2,5-anhydro-D-mannitol: A fructose analogue that increases food intake in rats. *Am. J. Physiol.* **254**(1 Pt 2), R150-R153 (1988).
2. Riquelme, P.T., Wernette-Hammond, M.E., Kneer, N.M., *et al.* Regulation of carbohydrate metabolism by 2,5-anhydro-D-mannitol. *Proc. Natl. Acad. Sci. USA* **80**(14), 4301-4305 (1983).
3. Rawson, N.E., Blum, H., Osbakken, M.D., *et al.* Hepatic phosphate trapping, decreased ATP, and increased feeding after 2,5-anhydro-D-mannitol. *Am. J. Physiol.* **266**(1 Pt 2), R112-R117 (1994).
4. Tordoff, M.G., Rawson, N., and Friedman, M.I. 2,5-anhydro-D-mannitol acts in liver to initiate feeding. *Am. J. Physiol.* **261**(2 Pt 2), R283-R188 (1991).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM