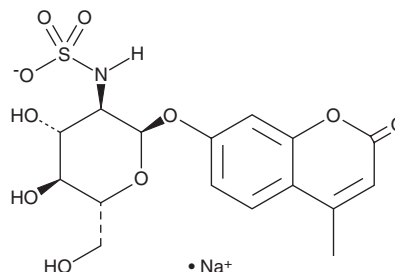


# PRODUCT INFORMATION



## 4-Methylumbelliferyl 2-sulfamino-2-deoxy- $\alpha$ -D-Glucopyranoside (sodium salt) Item No. 24931

**CAS Registry No.:** 460085-45-4  
**Formal Name:** 7-[[2-deoxy-2-(sulfoamino)- $\alpha$ -D-glucopyranosyl]oxy]-4-methyl-2H-1-benzopyran-2-one, monosodium salt  
**Synonym:** 4-MU- $\alpha$ -GlcNS  
**MF:** C<sub>16</sub>H<sub>18</sub>NO<sub>10</sub>S • Na  
**FW:** 439.4  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

4-Methylumbelliferyl 2-sulfamino-2-deoxy- $\alpha$ -D-glucopyranoside (sodium salt) (4-MU- $\alpha$ -GlcNS) is supplied as a solid. A stock solution may be made by dissolving the 4-MU- $\alpha$ -GlcNS in the solvent of choice, which should be purged with an inert gas. 4-MU- $\alpha$ -GlcNS is slightly soluble in DMSO and water.

4-MU- $\alpha$ -GlcNS is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

4-MU- $\alpha$ -GlcNS is a fluorogenic substrate of heparin sulphamidase.<sup>1</sup> Heparin sulphamidase cleaves 4-MU- $\alpha$ -GlcNS to yield 4-MU- $\alpha$ -GlcNH<sub>2</sub>, which is then cleaved by  $\alpha$ -glucosaminidase to release the fluorescent product 4-MU, which displays an emission maxima of 445-454 nm.<sup>1,2</sup> The excitation maxima for 4-MU is pH-dependent: 330, 370, and 385 nm at pH 4.6, 7.4, and 10.4, respectively.<sup>2</sup> 4-MU- $\alpha$ -GlcNS has been used to quantify heparin sulphamidase deficiencies associated with Mucopolisaccharidosis IIIA and other lysosomal disorders.<sup>3</sup>

### References

1. Karpova, E.A., Voznyi, Y.V., Keulemans, J.L.M., *et al.* A fluorimetric enzyme assay for the diagnosis of Sanfilippo disease type A (MPS IIIA). *J. Inherit. Metab. Dis.* **19**(3), 278-285 (1996).
2. Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *J. Spectrosc.* **2013**, 147128 (2013).
3. Civallero, G., De Mari, J., Viapiana Camelier, M., *et al.* Assay of heparan-N-sulfamidase in dried leukocytes impregnated in filter paper: A new tool for the identification of mucopolisaccharidosis IIIA and potentially other lysosomal disorders. *Mol. Genet. Metab.* **108**(4), 267-268 (2013).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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