

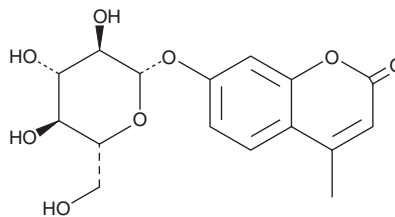
# PRODUCT INFORMATION



## 4-Methylumbelliferyl-β-D-Glucopyranoside

Item No. 20948

**CAS Registry No.:** 18997-57-4  
**Formal Name:** 7-(β-D-glucopyranosyloxy)-4-methyl-2H-1-benzopyran-2-one  
**Synonyms:** 4-MU-GLU, 4-MU-β-Gluc, 4-MUG, MU-GLU  
**MF:** C<sub>16</sub>H<sub>18</sub>O<sub>8</sub>  
**FW:** 338.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 317 nm  
**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

4-Methylumbelliferyl-β-D-Glucopyranoside is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-methylumbelliferyl-β-D-glucopyranoside in the solvent of choice, which should be purged with an inert gas. 4-Methylumbelliferyl-β-D-Glucopyranoside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-methylumbelliferyl-β-D-glucopyranoside in these solvents is approximately 50 and 5 mg/ml, respectively.

### Description

4-Methylumbelliferyl-β-D-Glucopyranoside (4-MUG) is a fluorogenic substrate of β-glucosidase and β-glucocerebrosidase (also known as glucosylceramidase). In addition to its use in characterizing novel β-glucosidases, 4-MUG is used in assays to evaluate deficiency in β-glucocerebrosidase activity related to Gaucher disease.<sup>1-3</sup> Hydrolysis of 4-MUG releases the fluorescent product 4-MU, which has an emission maximum at 445-454 nm. The excitation maximum for 4-MU is pH-dependent: 330, 370, and 385 nm at pH 4.6, 7.4, and 10.4, respectively.<sup>4</sup>

### References

- Hernández-Guzmán, A., Flores-Martínez, A., Ponce-Noyola, P., *et al.* Purification and characterization of an extracellular β-glucosidase from *Sporothrix schenckii*. *FEBS Open Bio* **6**, 1067-1077 (2016).
- Kwapiszewski, R., Skolimowski, M., Ziółkowska, K., *et al.* A microfluidic device with fluorimetric detection for intracellular components analysis. *Biomed Microdevices* **13**, 431-440 (2011).
- Shanmuganathan, M. and Britz-McKibbin, P. Inhibitor screening of pharmacological chaperones for lysosomal β-glucocerebrosidase by capillary electrophoresis. *Anal. Bioanal. Chem.* **399**(8), 2843-2853 (2011).
- Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *Journal of Spectroscopy* **2013**, 1-9 (2014).

#### 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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