

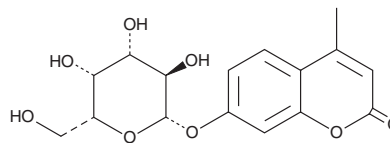
# PRODUCT INFORMATION



## 4-Methylumbelliferyl- $\beta$ -D-Galactoside

Item No. 33920

**CAS Registry No.:** 6160-78-7  
**Formal Name:** 7-( $\beta$ -D-galactopyranosyloxy)-4-methyl-2H-1-benzopyran-2-one  
**Synonym:** 4-Methylumbelliferyl- $\beta$ -D-Galactopyranoside  
**MF:** C<sub>16</sub>H<sub>18</sub>O<sub>8</sub>  
**FW:** 338.3  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 319 nm  
**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- $\beta$ -D-galactoside (MUG) is supplied as a solid. A stock solution may be made by dissolving the MUG in the solvent of choice, which should be purged with an inert gas. MUG is slightly soluble in ethanol, methanol, and DMSO.

### Description

MUG is a fluorogenic substrate for  $\beta$ -galactosidase ( $\beta$ -gal).<sup>1</sup> Hydrolysis of MUG by  $\beta$ -gal releases the fluorescent moiety 4-MU, which displays a pH-dependent excitation maximum of 330, 370, and 385 nm at pH 4.6, 7.4, and 10.4, respectively, and an emission maximum between 445-454 nm.<sup>2</sup> MUG has been used to detect  $\beta$ -gal activity in intact bacteria, yeast, and mammalian cells.<sup>1</sup>

### References

1. Vidal-Aroca, F., Giannattasio, M., Brunelli, E., *et al.* One-step high-throughput assay for quantitative detection of  $\beta$ -galactosidase activity in intact Gram-negative bacteria, yeast, and mammalian cells. *Biotechniques* **40(4)**, 433-434 (2006).
2. Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *J. Spectrosc.* **1(1)**, 147128 (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.

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