

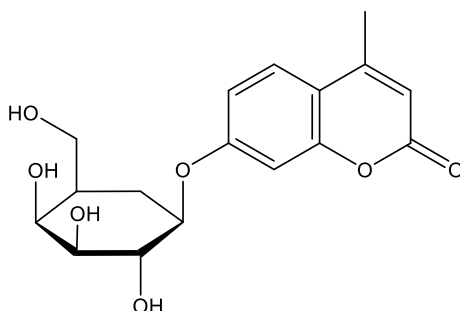
Catalog # 10-3879

4-MUG

CAS# 6160-78-7

4-Methylumbelliferyl β -D-galactopyranoside;
4-MU-b-D-Gal; MUgal; MUG; MUGA

Lot # X109822



4-MUG is a versatile fluorogenic substrate for β -galactosidase¹ for use in cell extracts or purified enzyme preparations.¹⁻³ May be used as a fluorescent probe for identification of senescent cells based on lysosomal β -galactosidase activity.^{4,5} This substrate produces a water soluble blue fluorescent coumarin fluorophore. Ex: 342 nm; Em: 441 nm

- 1) Chiu *et al.* (2017), *Measuring β -Galactosidase Activity in Gram-Positive Bacteria Using a Whole-Cell Assay with MUG as a Fluorescent Reporter*, *Curr. Protoc. Toxicol.*, **Supp 74** 4.44.1
- 2) Kytidou *et al.* (2018), *Nicotiana benthamiana α -galactosidase A1,1 can functionally complement human α -galactosidase A deficiency associated with Fabry disease*; *J. Biol. Chem.*, **293** 10042
- 3) Hernandez-Guzman *et al.* (2016), *Purification and characterization of an extracellular β -glucosidase from Sporothrix schenckii*; *FEBS Open Bio.*, **6** 1067
- 4) Lee *et al.* (2006), *Senescence-associated beta-galactosidase is lysosomal beta-galactosidase*; *Aging Cell*, **5** 187
- 5) Sosinska *et al.* (2014), *Specificity of cytochemical and fluorescence methods of senescence-associated β -galactosidase detection for ageing driven by replication and time*, *Biogerontology*, **15** 407

PHYSICAL DATA

Molecular Weight:	338.31
Molecular Formula:	C ₁₆ H ₁₈ O ₈
Purity:	97% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 40 mg/ml) or Water (1 mg/ml with warming)
Physical Description:	White solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or distilled water may be stored at -20°C for up to 1 month.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.