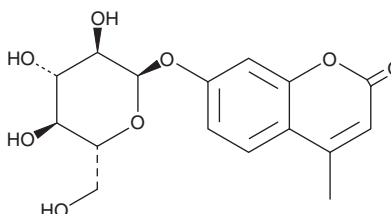


PRODUCT INFORMATION

4-Methylumbelliferyl- α -D-Glucopyranoside

Item No. 26810

CAS Registry No.: 17833-43-1
Formal Name: 7-(α -D-glucopyranosyloxy)-4-methyl-2H-1-benzopyran-2-one
Synonyms: 4-Methylumbelliferyl- α -D-Glucose, 4-Methylumbelliferyl- α -D-Glucoside, 4-MU- α -D-Glucopyranoside
MF: C₁₆H₁₈O₈
FW: 338.3
Purity: $\geq 95\%$
UV/Vis.: λ_{max} : 217, 318 nm
Ex. Max.: 320 and 360 nm at low (1.97-6.72) and high (7.12-10.3) pH, respectively
Em. Max.: 445 to 455 nm, increasing as pH decreases
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- α -D-glucopyranoside is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-methylumbelliferyl- α -D-glucopyranoside in the solvent of choice, which should be purged with an inert gas. 4-Methylumbelliferyl- α -D-glucopyranoside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-methylumbelliferyl- α -D-glucopyranoside in these solvents is approximately 50 and 5 mg/ml, respectively.

Description

4-Methylumbelliferyl- α -D-glucopyranoside is a fluorogenic substrate for α -glucosidase.^{1,2} 4-Methylumbelliferyl- α -D-glucopyranoside is cleaved by α -glucosidase to release the fluorescent moiety 4-methylumbelliferyl (4-MU). 4-MU fluorescence is pH-dependent with excitation maxima of 320 and 360 nm at low (1.97-6.72) and high pH (7.12-10.3), respectively, and an emission maximum ranging from 445 to 455 nm, increasing as pH decreases.³ 4-Methylumbelliferyl- α -D-glucopyranoside has been used to quantify α -glucosidase activity in infant blood spot samples as a biomarker of Fabry and Pompe diseases, lysosomal storage disorders characterized by a deficiency in the enzyme.^{1,2}

References

1. Olivova, P., van der Veen, K., Cullen, E., *et al.* Effect of sample collection on alpha-galactosidase A enzyme activity measurements in dried blood spots on filter paper. *Clin. Chim. Acta.* **403**(1-2), 159-162 (2009).
2. Wens, S.C., Kroos, M.A., de Vries, J.M., *et al.* Remarkably low fibroblast acid α -glucosidase activity in three adults with Pompe disease. *Mol. Genet. Metab.* **107**(3), 485-489 (2012).
3. Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *J. Spectrosc.* 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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