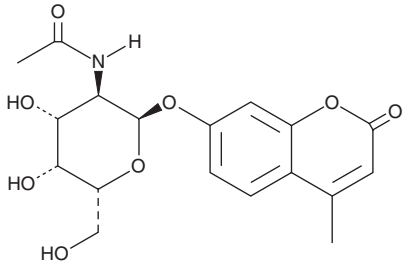
PRODUCT INFORMATION

4-Methylumbelliferyl 2-Acetamido-2-deoxy-α-D-galactopyranoside

Item No. 23099

CAS Registry No.:	124223-99-0
Formal Name:	7-[[2-(acetylamino)-2-deoxy-α-D-galactopyranosyl]oxy]-4-methyl-2H-1-benzopyran-2-one
Synonym:	4-MU-2-Acetoamido-2-deoxy-α-Gal
MF:	$C_{18}H_{21}NO_8$
FW:	379.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 203, 318 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 2-acetamido-2-deoxy-α-D-galactopyranoside (4-MU-2-acetoamido-2-deoxy-α-Gal)is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-MU-2-acetoamido-2-deoxy-α-Gal in the solvent of choice, which should be purged with an inert gas. 4-MU-2-acetoamido-2-deoxy-α-Gal is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-MU-2-acetoamido-2-deoxy-α-Gal in these solvents is approximately 2 and 1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 4-MU-2-acetoamido-2-deoxy-α-Gal can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 4-MU-2-acetoamido-2-deoxy-α-Gal in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-MU-2-acetoamido-2-deoxy-α-Gal is a fluorogenic substrate used to quantify α- and β-galactopyranosaminidase activity.[1] 4-MU-2-acetoamido-2-deoxy-α-Gal is cleaved by α- and β-galactopyranosaminidase to release the fluorescent moiety 4-MU. 4-MU fluorescence is pH-dependent with excitation maxima of 320 and 360 nm at low (1.97-6.72) and high (7.12-10.3) pH, respectively, and an emission maximum ranging from 445 to 455 nM, increasing as pH decreases.[2]

References

1. Szweda, R., Spohr, U., Lemieux, R.U., *et al.* Synthesis of 4-methylumbelliferyl glycosides for the detection of α- and β-D-galactopyranosaminidases. *Can. J. Chem.* **67(9)**, 1388-1391 (1989).
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).

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