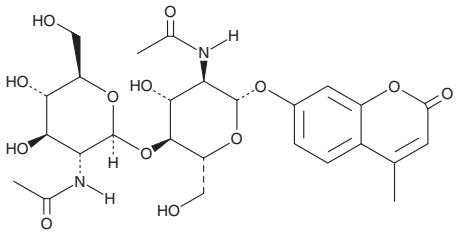
PRODUCT INFORMATION

4-Methylumbelliferyl β-D-N,N'-diacetylchitobioside

Item No. 27730

CAS Registry No.: 53643-12-2
Formal Name: 7-[[2-(acetylamino)-4-O-[2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]-2-deoxy-β-D-glucopyranosyl]oxy]-4-methyl-2H-1-benzopyran-2-one
Synonyms: 4-Methylumbelliferyl N,N'-diacetyl-β-chitobioside, 4-MU-$(GlcNAc)_2$
MF: $C_{26}H_{34}N_2O_{13}$
FW: 582.6
Purity: ≥98%
UV/Vis.: λ_{max}: 317 nm
Ex./Em. Max: 320 and 360 at low (1.97-6.72) and high pH (7.12-10.3), respectively/445-455 nm, increasing as pH decreases
Supplied as: A 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-N,N'-diacetylchitobioside (4-MU-$(GlcNAc)_2$) is supplied as a solid. A stock solution may be made by dissolving the 4-MU-$(GlcNAc)_2$ in the solvent of choice, which should be purged with an inert gas. 4-MU-$(GlcNAc)_2$ is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-MU-$(GlcNAc)_2$ in these solvents is approximately 10 mg/ml.

Description

4-MU-$(GlcNAc)_2$ is a fluorogenic substrate for chitinases and chitobiosidases.[1,2] 4-MU-$(GlcNAc)_2$ is cleaved by chitinases and chitobiosidases 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 pH (7.12-10.3), respectively, and an emission maximum ranging from 445 to 455 nm, increasing as pH decreases.

References

1. Sandalli, C., Kacagan, M., Canakci, S., *et al.* Cloning, expression, purification and characterisation of a thermostable chitinase from *Bacillus licheniformis* A1. *Ann. Microbiol.* **58(2),** 245-251 (2008).
2. Tronsmo, A. and Harman, G.E. Detection and quantification of *N*-acetyl-*β*-D-glucosaminidase, chitobiosidase, and endochitinase in solutions and on gels. *Anal. Biochem.* **208(1),** 74-79 (1993).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM