

PRODUCT INFORMATION

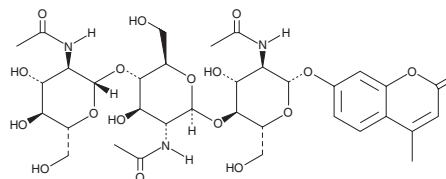


4-Methylumbelliferyl-β-D-N,N',N''-Triacetylchitotrioside

Item No. 19715

CAS Registry No.: 53643-13-3
Formal Name: 7-[[O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl]oxy]-4-methyl-2H-1-benzopyran-2-one

Synonym: MUF-triNAG
MF: C₃₄H₄₇N₃O₁₈
FW: 785.8
Purity: ≥98%
UV/Vis.: λ_{max}: 317 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-β-D-N,N',N''-triacetylchitotrioside (MUF-triNAG) is supplied as a crystalline solid. A stock solution may be made by dissolving the MUF-triNAG in the solvent of choice, which should be purged with an inert gas. MUF-triNAG is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of MUF-triNAG in these solvents is approximately 10 and 5 mg/ml, respectively.

Description

MUF-triNAG is a fluorogenic substrate for chitinases and chitotriosidases.¹⁻³ MUF-triNAG is cleaved by chitinases and chitotriosidases 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 (7.12-10.3) pH, respectively, and an emission maximum ranging from 445 to 455 nm, increasing as pH decreases.¹ It has been used to screen plasma samples for reduced chitotriosidase activity that may be indicative of lysosomal storage disorders.¹

References

1. Elmonem, M.A., Ramadan, D.I., Issac, M.S., *et al.* Blood spot versus plasma chitotriosidase: A systematic clinical comparison. *Clin. Biochem.* **47(1-2)**, 38-43 (2014).
2. Howard, M.B., Ekborg, N.A., Taylor, L.E., *et al.* Genomic analysis and initial characterization of the chitinolytic system of *Microbulbifer degradans* strain 2-40. *J. Bacteriol.* **185(11)**, 3352-3360 (2003).
3. Mukamolova, G.V., Murzin, A.G., Salina, E.G., *et al.* Muralytic activity of *Micrococcus luteus* Rpf and its relationship to physiological activity in promoting bacterial growth and resuscitation. *Mol. Microbiol.* **59(1)**, 84-98 (2006).
4. Zhi, H., Wang, J., Wang, S., *et al.* Fluorescent properties of hymecromone and fluorimetric analysis of hymecromone in compound dantong capsule. *J. Spectrosc.* **2013(147128)**, 1-9 (2014).

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.

WARRANTY AND LIMITATION OF REMEDY

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