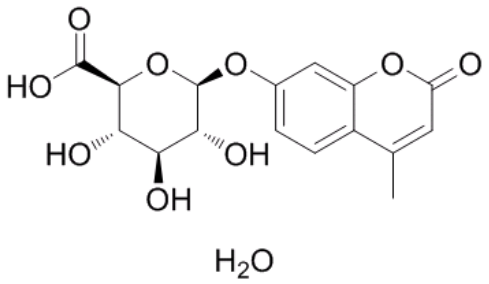
Product Data Sheet

Product Name: 4-Methylumbelliferyl-β-D-glucuronide hydrate (MUG)
Cat. No.: GC30519

Chemical Properties

Cas. No.	881005-91-0		
SMILES	O[C@H]([C@H]([C@@H]([C@@H](C(O)=O)O1)O)O)[C@@H]1OC2=CC=C(C(O3)=C2)C(C)=CC3=O.O		
Formula	$C_{16}H_{18}O_{10}$	M.Wt	370.31
Solubility	DMSO : 150 mg/mL (405.07 mM);Water : 5.2 mg/mL (14.04 mM)	Storage	Store at 4°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Protocol

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Kinase experiment: GLUase activity of E. coli cells is measured. Three millilitres of 4-Methylumbelliferyl-β-D-glucuronide hydrate (MUGlu) solution (55 mg of hydrated MUGlu and 20 mL of Triton X-100 in 50 mL of sterile water) is added to each flask (final concentration:165 mg/L). The incubation temperature is 44°C. One hundred microlitres of 2 M NaOH solution is added to each 2.9-mL aliquot to obtain a pH>10 before the fluorescence measurement[1].

References:

[1]. George I, et al. Use of beta-D-galactosidase and beta-D-glucuronidase activities for quantitative detection of totaland fecal coliforms in wastewater. Can J Microbiol. 2001 Jul;47(7):670-5.

Background

4-Methylumbelliferyl-β-D-glucuronide hydrate is a fluorogenic substrat (λex=362 nm , λem=445 nm).

4-Methylumbelliferyl-β-D-glucuronide hydrate is a fluorogenic substrat with λex=362 nm and λem=445 nm. The half-saturation constants, Km, that are calculated for sewage samples are close to the Km values calculated based on experimental plots presented previously for freshwaters[1].

[1]. George I, et al. Use of beta-D-galactosidase and beta-D-glucuronidase activities for quantitative detection of totaland fecal coliforms in wastewater. Can J Microbiol. 2001 Jul;47(7):670-5.

Caution: Product has not been fully validated for medical applications. For research use only.
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