BioSciences

FT-006383

Name:

Catalog #:

Properties:

Storage:

Name:

Catalog #:

Properties:

Storage:

Name:

Synonyms:

Synonyms:

Cellobiose containing Oligosacharides

Products Description

Glucopyranosyl polymeric oligosaccharides

Name:	D-(+)-Cellobiose		
Catalog #:	006383, 50g	006385, 1Kg	
	Glc-b-1,4-Glc 4-O-(b-D-Glucopyr	anosyl)-D-glucopyranose	
	CAS: [528-50-7		
Properties:	MW: 342.29	1	
	Melting Point:	238-242°C	
	Solubility:	in Water	
Storage:	-20° C for long term (M)		
	Hygroscopic, Under Inert Atmosphere		

Cellotriose 748275, 5mg

CAS: [33404-34-1] MW: 504.45

D-Cellotetraose 828445, 5mg

CAS: [38819-01-1] MW: 666.58

Melting Point:

Solubility:

Melting Point:

Solubility:

748277, 50mg

>165(dec.)

828447, 50mg

205-209°C

in Water

in Water

+4°C (or -20° C for long term) (K)

D-(+)-Cellotetraose; (Glc-b-1,4)₃-Glc;

+4°C (or -20°C for long term) (K)

Hygroscopic, Under Inert Atmosphere

glucopyranosyl-(1-4)-D-glucose;

Hygroscopic, Under Inert Atmosphere

D-(+)-Cellotriose; O-β-D-Glucopyranosyl-(14)-O-β-D-

glucopyranosyl-(14)-D-glucose; (Glc1-b-4)2-D-Glc;



White powder, min.95% References: 1. Pitson SM, et al., Enzyme Microbiol. Technol. 1997, 21, p182 2. Beil. 17/7, V, 191



White powder, min.95%



White to off-white powder, min.95%



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Applications:

Biochemistry

These oligosaccharides and other cellulodextrins, are used by cellulosic bacteria as sources of energy. They are used to help identify, differentiate and characterize oligosaccharide metabolizing enzymes.

Introduction • Cellulotriose

Cellulotriose is a 3-glucose polymer cellulodextrin derived from cellulose degradation.

• Cellotetraose

Cellotetraose is a substrate for many cellulases and for $1,4-\beta$ -D-glucan glucohydrolases. It is also the end product of some cellulases, such as Cel9R from Clostridium thermocellum. This 4-glucose polymer cellulodextrin is derived from cellulose degradation.

References – for Cellotriose & Cellotetraose

Apo- and cellopentaose-bound structures of the bacterial cellulose synthase subunit BcsZ. Mazur O, Zimmer J. J. Biol. Chem. 286, 17601-17606, (2011)

 $Cellulose, a very abundant extracellular polysaccharide, is synthesized in a finely tuned process that involves the activity of glycosyl-transferases and hydrolases. The cellulose microfibril consists of bundles of linear <math display="inline">\beta$ -1,4-glucan chains that are...

Diverse substrate recognition mechanism revealed by Thermotoga maritima Cel5A structures in complex with cellotetraose, cellobiose and mannotriose. Wu TH, Huang CH, Ko TP, et al. Biochim. Biophys. Acta 1814, 1832-1840, (2011)

The hyperthermophilic endoglucanase Cel5A from Thermotoga maritima can find applications in lignocellulosic biofuel production, because it catalyzes the hydrolysis of glucan- and mannan-based polysaccharides. Here, we report the crystal structures in...

Isomeric distinction of small oligosaccharides: a bottom-up approach using the kinetic method. Major M, Fouquet T, Charles L. J. Am. Soc. Mass Spectrom. 22, 1252-1259, (2011)

Isomeric distinction of di- and tri-saccharides could be efficiently achieved by using data previously obtained while performing experiments aimed at discriminating monosaccharides using trimeric ion dissociation with data analysis by the kinetic met...

Kinetic characterization of a glycoside hydrolase family 44 xyloglucanase/endoglucanase from Ruminococcus flavefaciens FD-1. Warner CD, Go RM, García-Salinas C, et al. Enzyme Microb. Technol. 48, 27-32, (2011)

Two forms of Ruminococcus flavefaciens FD-1 endoglucanase B, a member of glycoside hydrolase family 44, one with only a catalytic domain and the other with a catalytic domain and a carbohydrate binding domain (CBM), were produced. Both forms hydrolyz...

Identification of an extracellular thermostable glycosyl hydrolase family 13 α -amylase from Thermotoga neapolitana. Choi KH, Hwang S, Lee HS, Cha J. J. Microbiol. 49, 628-634, (2011)

We cloned the gene for an extracellular α -amylase, AmyE, from the hyperthermophilic bacterium Thermotoga neapolitana and expressed it in Escherichia coli. The molecular mass of the enzyme was 92 kDa as a monomer. Maximum activity was observed at pH 6...

Substrate binding of a GH5 endoglucanase from the ruminal fungus Piromyces rhizinflata. Tseng CW, Ko TP, Guo RT, et al. Acta Crystallogr. Sect. F. Struct. Biol. Cryst. Commun. 67, 1189-1194, (2011)

The endoglucanase EglA from Piromyces rhizinflata found in cattle stomach belongs to the GH5 family of glycoside hydrolases. The crystal structure of the catalytic domain of EglA shows the $(\beta/\alpha)(8)$ -barrel fold typical of GH5 enzymes. Adjacent to the ...

Expression, purification and characterization of two thermostable endoglucanases cloned from a lignocellulosic decomposing fungi Aspergillus fumigatus Z5 isolated from compost. Liu D, Zhang R, Yang X, et al. Acta Crystallogr. Sect. F. Struct. Biol. Cryst. Commun. 79, 176-186, (2011)

Dissecting structure-function-stability relationships of a thermostable GH5-CBM3 cellulase from Bacillus subtilis 168. Santos CR, Paiva JH, Sforça ML, et al. Biochem. J. 441, 95-104, (2012)

Cellulases participate in a number of biological events, such as plant cell wall remodelling, nematode parasitism and microbial carbon uptake. Their ability to depolymerize crystalline cellulose is of great biotechnological interest for environmental...

The role of the oligosaccharide binding cleft of rice BGlu1 in hydrolysis of cellooligosaccharides and in their synthesis by rice BGlu1 glycosynthase. Pengthaisong S, Withers SG, et al. Protein Sci. 21(3), 362-72, (2012)

Rice BGlu1 β -glucosidase nucleophile mutant E386G is a glycosynthase that can synthesize p-nitrophenyl (pNP)-cellooligosaccharides of up to 11 residues. The X-ray crystal structures of the E386G glycosynthase with and without α -glucosyl fluoride were...

Other Cellobiose containing oligosaccaharides

CAS N°	Product Name	Item N°
42935-24-0	4-Aminophenyl b-D-cellobioside	EA05142
35405-71-1	1,6-Anhydro-b-D-cellobiose	OA07141
177966-52-8	5-Bromo-4-chloro-3-indolyl b-D-cellobioside	EB03309
528-50-7	D-Cellobiose - carbohydrate mixed kit 01	UC07548
528-50-7	<u>D-Cellobiose</u>	OC04040
5346-90-7	D-Cellobiose octaacetate	OC05954

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69194-62-3	b-Cellobiosyl azide	MC05699
5551-59-7	Cellobiuronic acid	MC04373
	Cellodextrins	OC11690
52646-27-2	D-Celloheptaose	OC05241
2478-35-5	<u>D-Cellohexaose</u>	OC06512
355012-91-8	D-(+)-Cellohexose eicosaacetate	OC16452
	D-Cellohexose eicosaacetate	OC04684
2240-27-9	D-Cellopentaose	OC04683
83058-38-2	D-Cellopentose heptadecaacetate	OC06514
38819-01-1	<u>D-Cellotetraose</u>	OC04674
83058-25-7	D-Cellotetraose tetradecaacetate	OC04693
33404-34-1	<u>D-Cellotriose</u>	OC05719
17690-94-7	D-Cellotriose undecaacetate	OC04692
425427-87-8	6-Chloro-3-indolyl b-D-cellobioside	EC03250
135743-28-1	2-Chloro-4-nitrophenyl b-D-cellobioside	EC01941
	6-Chloro-4-(trifluoromethyl)umbelliferyl-b-D-cellotetraoside	EC28872
	6,8-Difluoro-4-methylumbelliferyl-b-D-cellotetraoside	ED28873
	Dodecyl b-D-cellobioside	DD11096
	4-O-(b-D-Glucopyranosyl)-b-D-thioglucopyranose	OG10933
14227-66-8	2,3,6,2',3',4',6'-Hepta-O-acetyl-a-D-cellobiosyl bromide	OH04128
38631-27-5	2,3,2',3',4',6'-Hexa-O-acetyl-1,6-anhydro-b-D-cellobiose	OH08980
106445-30-1	8-Methoxycarbonyloctyl 4-O-(3,4,6-tri-O-acetyl-2-deoxy-2-phthalimido-b-D	-glucopyranosyl)-2-
deoxy-3-O-benzyl-2	-phthalimido-b-D-glucopyranoside	OM06842
72626-61-0	4-Methylumbelliferyl b-D-cellobioside	EM08000
	4-Methylumbelliferyl b-D-celloheptaoside	EM28810
84325-21-3	4-Methylumbelliferyl b-D-cellohexoside	EM28809
84325-20-2	4-Methylumbelliferyl b-D-cellopentoside	EM03924
84325-19-9	4-Methylumbelliferyl b-D-cellotetroside	EM04814
84325-18-8	4-Methylumbelliferyl b-D-cellotrioside	EM07217
3482-57-3	4-Nitrophenyl b-D-cellobioside	EN04798
70867-33-3	2-Nitrophenyl b-D-cellobioside	EN03286
70867-22-0	2-Nitrophenyl b-D-cellobioside heptaacetate	EN07318
	4-Nitrophenyl b-D-cellobioside heptaacetate	EN07317
69948-03-4	p-Nitrophenyl b-D-cellobioside heptacetate	ON16482
	4-Nitrophenyl b-D-celloheptaoside	ON10193
	4-Nitrophenyl b-D-cellohexaoside	ON10194
129411-63-8	4-Nitrophenyl b-D-cellopentaoside	EN06431
129411-66-1	p-Nitrophenyl b-D-cellopentaoside, hexadecaacetate	ON16483
	4-Nitrophenyl b-D-cellopentaoside hexadecaacetate	EN07316
129411-62-7	4-Nitrophenyl b-D-cellotetraoside	EN05261
106927-48-4	4-Nitrophenyl b-D-cellotrioside	EN04796
	Resorufin cellobioside	FR28833
	4-(Trifluoromethyl)umbelliferyl-b-D-cellotetraoside	ET28871
CAS N°	Product Name	Item N°
9012-54-8	Cellulase	MC05790
	Cellulose catalase	MC01380
9035-69-2	Cellulose diacetate	MC02836
9004-58-4	Ethyl hydroxyethyl cellulose	OE30633
9004-62-0	Hydroxyethyl cellulose	OH30634
9004-64-2	Hydroxypropyl cellulose - Average MW 100.000	OH16040
9004-67-5	Methyl cellulose	OM30635
9032-42-2	Methyl 2-hydroxyethyl cellulose	OM30632
	Micro crystalline cellulose	FM01523
59122-46-2	Misoprostol. 1% in cellulose	FM26017
······	Sodium carboxymethyl-cellulose	FS03666

Other available oligosaccharides

Liste available here

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Available monosaccharides Liste available here

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