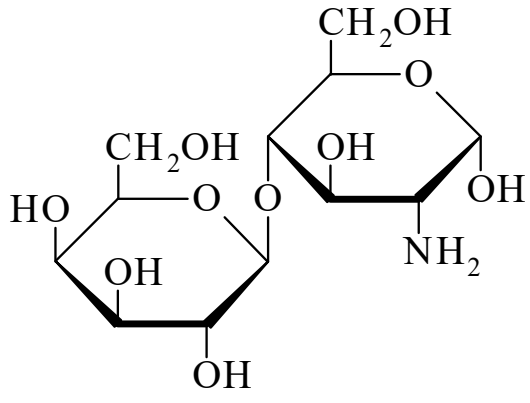
>>**Entry Name: Lactosamine**
ENTRY UNDER REVIEW
Synonym(s): 2-Amino-2-deoxy-4-*O*-(β-D-galactopyranosyl)-D-glucose, 9CI. β-D-Galactopyranosyl-(1→4)-2-amino-2-deoxy-D-glucose. 4-*O*-β-D-Galactosyl-D-glucosamine



a-Pyranose-*form*

CAS Registry Number: 13000-25-4
Related CAS Registry Numbers(s): 4307-58-8 36954-63-9

Molecular Formula: $C_{12}H_{23}NO_{10}$
Molecular Weight: 341.314
Accurate Mass: 341.132199
Percentage Composition: C 42.23%; H 6.79%; N 4.10%; O 46.88%
Biological Source: Isol. from porcine gastric mucin, human milk, glycoproteins with human blood group A activity, goat colostrum and from fetuin
Physical Description: Growth factor for *Lactobacillus bifidus*
Optical Rotation: $[\alpha]_D^{21}$ +78.2 (3 min) → +63.1 (3h) (c, 1.25 in H_2O)

>>**Derivative:** *N*-Ac
Synonym(s): *N*-Acetyllactosamine

CAS Registry Number: 32181-59-2
Extra CAS Registry Numbers(s): 77304-67-7

Molecular Formula: $C_{14}H_{25}NO_{11}$
Molecular Weight: 383.352
Accurate Mass: 383.142764
Percentage Composition: C 43.86%; H 6.57%; N 3.65%; O 45.91%
Biological Source: Repeating unit in mucopolysaccharides isol. from partial acid hydrolysates or acetolysates of human-blood group A substance and other sources. Structural unit in higher oligosaccharides present in human milk. Hydrolysis prod. of human plasma glycoprotein and of fetuin, a glycoprotein from calf foetal plasma
Physical Description: Cryst. (2-propanol/MeOH)
Melting Point: Mp 170-171° (168-170°)
Optical Rotation: $[\alpha]_D^{20}$ +50 → +28.5 (c, 0.6 in 90% MeOH aq.). $[\alpha]_D^{19}$ +48.3 (3 min) → +27.4 (equilib.) (c, 0.5 in H_2O)

>>**Variant:** α-Pyranose-form

Molecular Formula: $C_{12}H_{23}NO_{10}$
Molecular Weight: 341.314
Accurate Mass: 341.132199
Percentage Composition: C 42.23%; H 6.79%; N 4.10%; O 46.88%

>>**Derivative:** Octa-Ac

CAS Registry Number: 36954-63-9

Molecular Formula: $C_{28}H_{39}NO_{18}$
Molecular Weight: 677.612
Accurate Mass: 677.216719
Percentage Composition: C 49.63%; H 5.80%; N 2.07%; O 42.50%
Melting Point: Mp 224-225°
Optical Rotation: $[\alpha]_D$ +61.5 (+57.7) ($CHCl_3$)
Sigma: A3674

References: