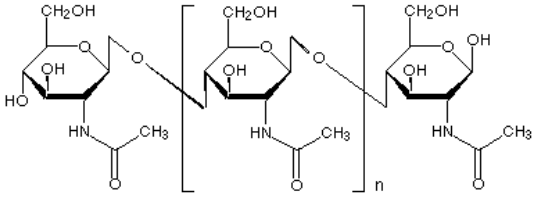
Catalog Number: 101334

Chitin

Structure:



Approximate Molecular Formula: $C_{30}H_{50}N_4O_{19}$

Approximate Molecular Weight: 770.8

CAS # : 1398-61-4

Synonym: poly (N-acetyl-D-glucosamine)

Form: Unbleached, practical grade

Source: *Crustacean shells*

Physical Description: Off white to light brown flakes or powder

Solubility: Soluble in concentrated HCl, H_3SO_4 or anhydrous Acetic Acid; practically insoluble in water, dil acides, dil and concentrated alkalies, alcohol and other organic solvents. There are substanial variations in solubility.

Description: Cellulose-like biopolymer consisting predominantly of unbranched chains of β-(1->4)-2-acetamido-2-deoxy-D-glucose (also named N-acetyl-D-glucosamine) residues. Found in fungi, yeasts, marine invertebrates and arthropods, where it is a principal component in the exoskeletons. May be regarded as a derivative of cellulose, in which the C-2 hydroxyl groups have been replaced by acetamido residues. [1]

References:

1. *Merck Index*, **12th Ed.**, No. 2105.
2. Cabib, E. and B. Bowers, "Chitin and Yeast Budding: Localization of chitin in yeast bud scars." *J. of Biol. Chem.*, **v. 246 (1)**, 152-159 (1971).
3. Cabib, E. and F.A. Keller, "Chitin and yeast budding: Allosteric inhibition of chitin synthetase by a heat-stable protein from yeast." *J. of Biol. Chem.*, **v. 246 (1)**, 167-173 (1971).
4. Keller, F.A., and E. Cabib, "Chitin and yeast budding: Properties of yeast synthetase from Saccharomyces carlsbergensis." *J. of Biol. Chem.*, **v. 246 (1)**, 160-166 (1971).
5. Hackman, *Aust. J. Biol. Sci.*, **v.. 7**, 168 (1954)
6. Horowitz, et al., *J. Am. Chem. Soc.*, **v. 79**, 5046 (1957).
7. Dweltz, *Biochim. Biophys. Acta*, **v. 44**, 416 (1960)