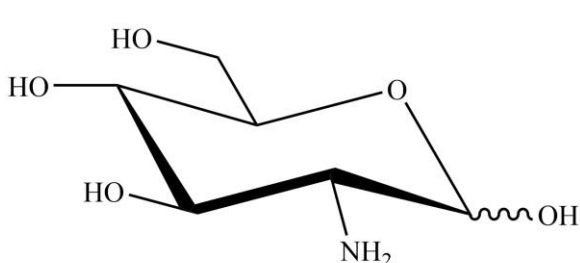


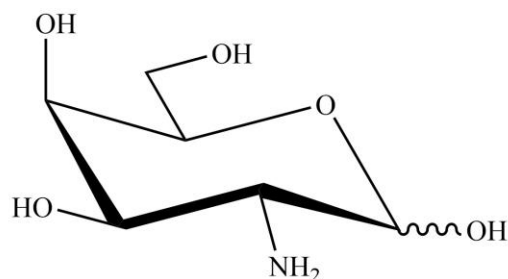
❖ Amino Sugars

Amino sugars may simply be defined as the sugars in which at least one hydroxyl group is replaced by an amine group.

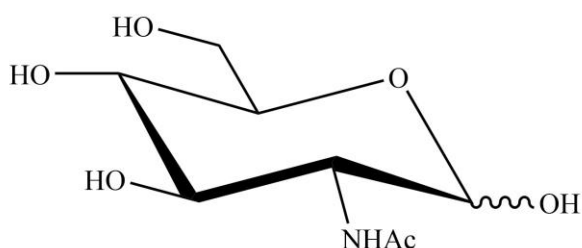
Since amino sugars play key roles in the structure and proper functioning of glycoproteins many biologically significant polysaccharides, these types of sugars are absolutely vital components for the well-functioning of humans and other organisms. The primary cause of such behavior lies in the good polarity to the molecule due to the positively charged ammonium ion or the acetamido group which can be created from the protonation of a free amine in a monosaccharide residue. Two of the most popular members of amino sugars are given below.



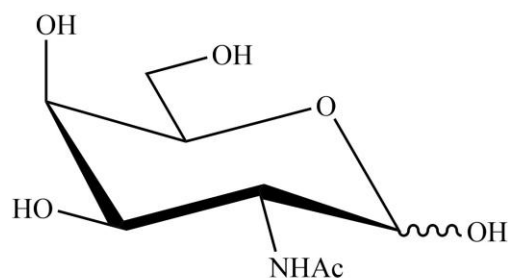
(I)



(II)



(III)



(IV)

Out of more than 60 types of known amino sugars, N-Acetyl-d-glucosamine the most abundant (main component of chitin). It is also worthy to note that the derivatives of many amine-containing sugars like sialic acid or N-acetylglucosamine are also considered amino sugars, despite the fact that nitrogens in them are part of more complex functional groups rather than formal amines. Furthermore, aminoglycosides (conjugates of amino sugars and aminocyclitols) form a group of antimicrobial substances that hinder the synthesis of bacterial proteins.

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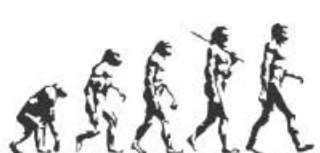
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Volume I

MANDEEP DALAL



First Edition

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