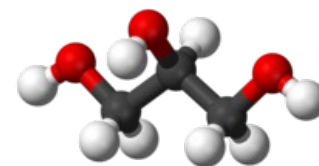


Glycerol

Characteristics

Glycerol is a trihydric alcohol . Its systematic name is propane-1,2,3-triol. It is a basic building block of several groups of lipids . Glycerol derivatives also play an important role in carbohydrate metabolism .

Glycerol itself is used as a cryoprotectant, a solvent, as a wetting agent in the food industry, to treat plastics and rubber, etc.



3D model of glycerol

Stereochemistry

From the spatial representation of glycerol, it is clear that the first and third carbons are not identical. **Glycerol** is so-called **prochiral**. The difference between the 1st and 3rd carbons is that after a stereospecific event that increases the CIP priority of one over the other, this event on one carbon (specifically sn-3) results in an absolute R configuration, while a similar event on the opposite side of the molecule (at the sn-1 carbon) of the absolute configuration S. Enzymes distinguish both positions. For example, glycerol kinase performs phosphorylation to form the R-enantiomer of glycerol phosphate. *Stereospecific numbering* (*stereospecific numbering, sn*) is used to mark positions.

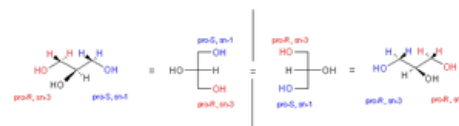


figure 1

Links

Related Articles

- Lipid breakdown and metabolism of ketone bodies
- Triacylglycerols
- Formation of fatty acids and triacylglycerols

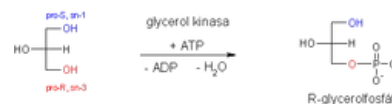


figure 2

Reference

1. ČERVINKA, Otakar. Chirality and related concepts. *Chemical Letters* [online] . 1999, year 93, vol. 93, no. 5, pp. 294-305, also available from < http://www.chemicke-listy.cz/docs/full/1999_05_294-305.pdf >. ISSN 1213-7103.
2. ↑ IUPAC. *Basic Terminology of Stereochemistry* [online]. ©1996. [feeling. 3/4/2010]. < <http://www.sbcs.qmul.ac.uk/iupac/stereo/NQ.html> >.
3. ↑ IUPAC. *Basic Terminology of Stereochemistry* [online]. ©1996. [feeling. 3/4/2010]. < <http://www.sbcs.qmul.ac.uk/iupac/stereo/BC.html> >.
4. ↑ IUPAC. *Basic Terminology of Stereochemistry* [online]. ©1996. [feeling. 3/4/2010]. < <http://www.sbcs.qmul.ac.uk/iupac/stereo/NQ.html> >.
5. ↑ IUPAC. *Nomenclature of Lipids* [online]. ©1976. [feeling. 3/4/2010]. < <http://www.sbcs.qmul.ac.uk/iupac/lipid/lip1n2.html> >.
6. ↑ Note: however, this is a special numbering method only for glycerol.