Fructose catabolism

Cameselle, JC., D'Eustachio, P., Jassal, B., Ribeiro, JM.
Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references


Reactome database release: 79

This document contains 1 pathway and 5 reactions (see Table of Contents)
Fructose catabolism

Stable identifier: R-HSA-70350

Fructose occurs naturally in foods as a free monosaccharide and as a component of the disaccharide sucrose. It is also widely used as a sweetener. In the body, fructose catabolism occurs in the liver and to a lesser extent in the kidney and small intestine. In these tissues, it is converted to dihydroxyacetone phosphate and D-glyceraldehyde 3-phosphate, two intermediates in the glycolytic pathway, in a sequence of three reactions. It is phosphorylated to form fructose 1-phosphate, which is cleaved by aldolase to yield dihydroxyacetone phosphate and D-glyceraldehyde, and the latter compound is phosphorylated to yield D-glyceraldehyde 3-phosphate. Other pathways exist for the conversion of D-glyceraldehyde to intermediates of glycolysis, but these appear to play only a minor role in normal fructose metabolism (Sillero et al. 1969).

Literature references


Editions

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KHK dimer phosphorylates Fru to Fru 1-P

Location: Fructose catabolism

Stable identifier: R-HSA-70333