PXL-P-K314-GPT transaminates L-Ala to form PYR
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: 74

This document contains 1 reaction (see Table of Contents)
**PXLP-K314-GPT transaminates L-Ala to form PYR**

**Stable identifier:** R-HSA-70523

**Type:** transition

**Compartments:** cytosol

Cytosolic glutamic-pyruvate transaminase (alanine aminotransferase) (GPT) catalyzes the reversible reaction of alanine and 2-oxoglutarate (alpha-ketoglutarate) to form pyruvate and glutamate (Sohocki et al. 1997; Yang et al. 2002). The active form of the enzyme is a dimer (Ishiguro et al. 1991) and is inferred to have a molecule of pyridoxal phosphate associated with each monomer. This reaction allows the synthesis of alanine from intermediates of glucose metabolism in a well-fed person. Under fasting conditions, alanine, derived from protein breakdown, can be converted to pyruvate and used to synthesize glucose via the gluconeogenic pathway in liver, or fully oxidized via the TCA cycle in other tissues.

**Literature references**

