

Galactose Dehydrogenase and Galactose mutarotase Enzyme Mixture

Product Information

Cat#	DIA-547
Source	Escherichia coli
Description	High purity galactose dehydrogenase (Escherichia coli) and galactose mutarotase (Escherichia coli) mixture for use in research, biochemical enzyme assays and in vitro diagnostic analysis.
Form	Suspension
ECNumber	Galactose dehydrogenase: 1.1.1.48 Galactose mutarotase: 5.1.3.3
Activity	Galactose dehydrogenase: ~ 200 U/mL at pH 8.6 and 25 °C Galactose mutarotase: 4.1 mg/mL
CAS No.	Galactose dehydrogenase: 9028-54-0 Galactose mutarotase: 9031-76-9
Optimum pH	8.6
Optimum temperature	25 °C
Stability	> 1 year under recommended storage conditions
Unit Definition	One unit of galactose dehydrogenase is defined as the amount of enzyme required to produce one μ mole of NADH from NAD ⁺ per minute at pH 8.6, at 25 °C.
Storage	2–8 °C
Synonyms	Galactose dehydrogenase: D-galactose 1-dehydrogenase; D-galactose:NAD ⁺ 1-oxidoreductase Galactose mutarotase: aldose 1-epimerase; aldose 1-epimerase
Buffer	3.2 M ammonium sulphate
Applications	Used for the rapid measurement of D-galactose or L-arabinose in the L-Arabinose/D-Galactose Assay Kit (K-ARGA). Also used in the measurement of lactose via D-



Creative Enzymes

Diagnostic Enzymes

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galactose in the Lactose/D-Galactose (Rapid) Assay Kit (K-LACGAR).

Specificity

Interconversion of the α - and β -anomeric forms of D-galactose is catalysed by β -galactose mutarotase (GMR) (1).

(1) α -D-Galactose $\leftrightarrow$ β -D-Galactose.

The β -D-Galactose is oxidised by NAD⁺ to D-galactonic acid in the presence of β -galactose dehydrogenase (GALDH) at pH 7.5 (2).

(2) β -D-Galactose + NAD⁺ $\rightarrow$ D-galactonic acid + NADH + H⁺.
