

Recombinant Human GALE, His-tagged

Cat. No. GALE-28967TH Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human GALE with N terminal His tag; 368 amino acids, MWt 40.4kDa.
Species	Human
Source	E.coli
ProteinLength	348 amino acids
Description	This gene encodes UDP-galactose-4-epimerase which catalyzes two distinct but analogous reactions: the epimerization of UDP-glucose to UDP-galactose, and the epimerization of UDP-N-acetylglucosamine to UDP-N-acetylgalactosamine. The bifunctional nature of the enzyme has the important metabolic consequence that mutant cells (or individuals) are dependent not only on exogenous galactose, but also on exogenous N-acetylgalactosamine as a necessary precursor for the synthesis of glycoproteins and glycolipids. Mutations in this gene result in epimerase-deficiency galactosemia, also referred to as galactosemia type 3, a disease characterized by liver damage, early-onset cataracts, deafness and mental retardation, with symptoms ranging from mild (peripheral form) to severe (generalized form). Multiple alternatively spliced transcripts encoding the same protein have been identified.
Conjugation	HIS
Molecular Weight	40.400kDa inclusive of tags

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Form	Liquid
Purity	>95% by SDS-PAGE
Storage buffer	Preservative: None Constituents: 10% Glycerol, 0.1M Sodium chloride, 5mM DTT, 20mM Tris HCl, 1mM EDTA, pH 8.0
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Sequences of amino acids	MGSSHHHHHHSSGLVPRGSHMAEKVLVTGGAGYIGSHTVLELLEAGYLPVVIDNFH NAFRGGGSLPESLRRVQELTGRSVEFEEMDILDQGALQRLFKKYSFMAVIHFAGLKA VGESVQKPLDYRNVNLTGTIQLLEIMKAHGKLVFSSSATVYGNPQYLPDEAHPT GGCTNPYGKSKFFIEEMIRDLCQADKTWNAVLLRYFNPTGAHASGCIGEDPQGIPNN LMPYVSQVAIGRRREALNVFGNDYDTEGDTGVRDYIHVVDLAKGHIAALRKLKEQCGC RIYNLGTGTGYSVLQMVQAMEKASGKKIPYKVARREGDVAACYANPSLAQEELGW TAALGLDRMCEDLWRWQKQNPSPGFGTQA
Sequence Similarities	Belongs to the sugar epimerase family.
GENE INFORMATION	
Gene Name	GALE UDP-galactose-4-epimerase [Homo sapiens]
Official Symbol	GALE
Synonyms	GALE; UDP-galactose-4-epimerase; galactose 4 epimerase, UDP; UDP-glucose 4-epimerase; SDR1E1; short chain dehydrogenase/reductase family 1E; member 1; UDP glucose 4 epimerase;

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Gene ID	2582
mRNA Refseq	NM_000403
Protein Refseq	NP_000394
MIM	606953
Uniprot ID	Q14376
Chromosome Location	1p36-p35
Pathway	Amino sugar and nucleotide sugar metabolism, organism-specific biosystem; Amino sugar and nucleotide sugar metabolism, conserved biosystem; Galactose catabolism, organism-specific biosystem; Galactose metabolism, organism-specific biosystem; Galactose metabolism, conserved biosystem;
Function	UDP-glucose 4-epimerase activity; UDP-glucose 4-epimerase activity; UDP-glucose 4-epimerase activity; catalytic activity; coenzyme binding;