

## Recombinant Human GALE Protein, His-tagged

**Cat. No.** GALE-151H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| <b>Product Overview</b> | Recombinant Human GALE, transcript variant 1, fused with His tag at C-terminal was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Description</b>      | <p>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.</p> |
| <b>Form</b>             | 50mM Tris-HCl, 150mM NaCl, 2mM DTT, 1mM EDTA, pH 8.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Molecular Mass</b>   | 40.4 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Endotoxin</b>        | < 0.1 EU per µg protein as determined by LAL test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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| <b>Purity</b>           | >95% as determined by SDS-PAGE and Coomassie blue staining                                                                                                                                                                                                                                                                                                        |
| <b>Storage</b>          | Avoid repeated freeze-thaw cycles. Stable for at least 3 months from receipt of products under proper storage and handling conditions.                                                                                                                                                                                                                            |
| <b>Concentration</b>    | >50 ug/mL as determined by microplate BCA method                                                                                                                                                                                                                                                                                                                  |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Gene Name</b>        | GALE UDP-galactose-4-epimerase [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                   |
| <b>Official Symbol</b>  | GALE                                                                                                                                                                                                                                                                                                                                                              |
| <b>Synonyms</b>         | 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; galactowaldenase; UDP-galactose 4-epimerase; UDP galactose-4-epimerase; galactose-4-epimerase, UDP-; short chain dehydrogenase/reductase family 1E, member 1; FLJ95174; FLJ97302; |
| <b>Gene ID</b>          | 2582                                                                                                                                                                                                                                                                                                                                                              |
| <b>mRNA Refseq</b>      | NM_000403                                                                                                                                                                                                                                                                                                                                                         |
| <b>Protein Refseq</b>   | NP_000394                                                                                                                                                                                                                                                                                                                                                         |
| <b>MIM</b>              | 606953                                                                                                                                                                                                                                                                                                                                                            |
| <b>UniProt ID</b>       | Q14376                                                                                                                                                                                                                                                                                                                                                            |