# Data Sheet (Cat.No.TMPY-03659)

TargetMol

## GALE Protein, Human, Recombinant (His)

### General Information

Synonyms: SDR1E1;UDP-galactose-4-epimerase

Protein Construction: A DNA sequence encoding the mature form of human GALE (Q14376) (Met1-Ala348) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His

Species: Human

Expression Host: E. coli

Accession: Q14376

Molecular Weight: 40.1 kDa (predicted); 36 kDa (reducing conditions)

### QC Testing

Biological Activity: Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 95 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM HEPES, 150 mM NaCl, 10% Glycerol, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

UDP galactose-4'-epimerase, also known as GALE, enables the body to process a simple sugar called galactose, which is present in small amounts in many foods. Galactose is primarily part of a larger sugar called lactose, which is found in all dairy products and many baby formulas. UDP galactose-4'-epimerase 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. Defects in GALE causes epimerase-deficiency galactosemia

(EDG), also known as galactosemia type 3. Clinical features include early-onset cataracts, liver damage, deafness and mental retardation.

Reference

Kim W. et al., 2011, Mol Cell. 44 (2): 325-40.
Havugimana PC. et al., 2012, Cell. 150 (5): 1068-81.
Jiang L. et al., 2011, Cancer Biol Ther. 11 (6): 567-73.



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