SANTA CRUZ BIOTECHNOLOGY, INC.

GALE (N-13): sc-160060

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GALE, also known as galactowaldenase, UDP-galactose-4-epimerase or SDR1E1, is a 348 amino acid protein that functions as the third enzyme in the Leloir pathway of galactose metabolism. A member of the sugar epimerase family, GALE exists as a homodimer, binds FAD as a cofactor and catalyzes the epimerization of UDP-N-acetylglucosamine to UDP-N-acetylgalactosamine and UDP-glucose to UDP-galactose. The gene encoding GALE maps to human chromosome 1p36.11 and mutations in this gene lead to the development of complex disorder known as epimerase-deficiency galactosemia (EDG) or galactosemia type 3, which is characterized by mental retardation, liver damage, cataracts and deafness.

REFERENCES

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2. Holton, J.B., et al. 1981. Galactosaemia: a new severe variant due to uridine diphosphate galactose-4-epimerase deficiency. Arch. Dis. Child. 56: 885-887.
3. Henderson, M.J., et al. 1983. Further observations in a case of uridine diphosphate galactose-4-epimerase deficiency with a severe clinical presentation. J. Inherit. Metab. Dis. 6: 17-20.
4. Kingsley, D.M., et al. 1986. Reversible defects in O-linked glycosylation and LDL receptor expression in a UDP-Gal/UDP-GalNAc 4-epimerase deficient mutant. Cell 44: 749-759.
5. Alano, A., et al. 1998. Molecular characterization of a unique patient with epimerase-deficiency galactosaemia. J. Inherit. Metab. Dis. 21: 341-350.
6. Maceratesi, P., et al. 1998. Human UDP-galactose 4' epimerase (GALE) gene and identification of five missense mutations in patients with epimerase-deficiency galactosemia. Mol. Genet. Metab. 63: 26-30.
7. Wohlers, T.M., et al. 1999. Identification and characterization of a mutation, in the human UDP-galactose-4-epimerase gene, associated with generalized epimerase-deficiency galactosemia. Am. J. Hum. Genet. 64: 462-470.
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CHROMOSOMAL LOCATION

Genetic locus: GALE (human) mapping to 1p36.11; Gale (mouse) mapping to 4 D3.

SOURCE

GALE (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GALE of human origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160060 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GALE (N-13) is recommended for detection of GALE of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GALE (N-13) is also recommended for detection of GALE in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GALE siRNA (h): sc-78950, GALE siRNA (m): sc-145310, GALE shRNA Plasmid (h): sc-78950-SH, GALE shRNA Plasmid (m): sc-145310-SH, GALE shRNA (h) Lentiviral Particles: sc-78950-V and GALE shRNA (m) Lentiviral Particles: sc-145310-V.

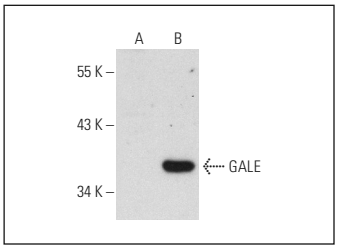
Molecular Weight of GALE: 38 kDa.

Positive Controls: GALE (h): 293T Lysate: sc-110864.

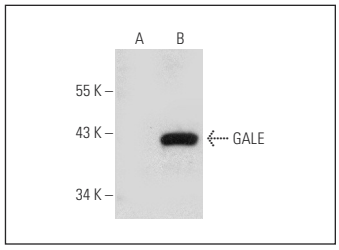
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GALE (N-13): sc-160060. Western blot analysis of GALE expression in non-transfected: sc-117752 (**A**) and human GALE transfected: sc-110864 (**B**) 293T whole cell lysates.



GALE (N-13): sc-160060. Western blot analysis of GALE expression in non-transfected: sc-117752 (**A**) and human GALE transfected: sc-170673 (**B**) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.