

Product datasheet for RC201561

GALE (NM_000403) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GALE (NM_000403) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GALE
Synonyms:	SDR1E1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201561 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGC**C

ATGGCAGAGAAGGTGCTGGTAACAGGTGGGGCTGGCTACATTGGCAGCCACACGGTGTGGAGCTGCTGG
AGGCTGGCTACTTGCCTGTGGTCATCGATAACTTCCATAATGCCTCCGTGGAGGGGGCTCCCTGCCTGA
GAGCCTGCGGCGGGTCCAGGAGCTGACAGGCCGCTCTGTGGAGTTTGGAGAGATGGACATTTTGGACCAG
GGAGCCCTACAGCGTCTCTTCAAAAAGTACAGCTTTATGGCGGTATCCACTTTGCGGGGCTCAAGGCCG
TGGCGAGTCGGTGCAGAACCTCTGGATTATTACAGAGTTAACCTGACCGGGACCATCCAGCTTCTGGA
GATCATGAAGGCCACCGGGTGAAGAACCTGGTGTTCAGCAGCTCAGCCACTGTGTACGGGAACCCCGAG
TACCTGCCCTTGATGAGGCCACCCACGGGTGGTTGTACCAACCCTTACGGCAAGTCCAAGTTCTTCA
TCGAGGAAATGATCCGGGACCTGTGCCAGGCAGACAAGACTTGAACGCAGTGTCTGCTGCGCTATTTCAA
CCCCACAGGTGCCATGCCTCTGGCTGCATTGGTGAGGATCCCCAGGGCATACCCAACAACCTCATGCCT
TATGTCTCCAGGTGGCGATCGGGCGACGGGAGGCCCTGAATGTCTTTGGCAATGACTATGACACAGAGG
ATGGCACAGGTGTCCGGGATTACATCCATGTCGTGGATCTGGCCAAGGGCCACATTGCAGCCTTAAGGAA
GCTGAAAGAACAGTGTGGCTGCCGATCTACAACCTGGGCACGGGCACAGGCTATTCAAGTGTGCAGATG
GTCCAGGCTATGGAGAAGCCTCTGGGAAGAAGATCCCGTACAAGGTGGTGGCACGGCGGGAAGGTGATG
TGGCAGCCTGTTACGCCAACCCAGCCTGGCCCAAGAGGAGCTGGGGTGGACAGCAGCCTTAGGGCTGGA
CAGGATGTGTAGGATCTCTGGCGCTGGCAGAAGCAGAATCCTTCAGGCTTTGGCACGCAAGCC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201561 protein sequence
 Red=Cloning site Green=Tags(s)

MAEKVLVTGGAGYIGSHTVLELLEAGYLPVVIDNFHNAFRGGGSLPESLRRVQELTGRSVEFEEMDILDQ
 GALQRLFKKYSFMAVIHFAGLKAVGESVQKPLDYRVNLGTIQLLEIMKAHGVKNLVFSSATVYGNPQ
 YLPLDEAHPTGGCTNPYGKSKFFIEEMIRDLQADKTWNAVLLRYFNPTGAHASGCIGEDPQGIPNNLMP
 YVSQVAIGRREALNVFGNDYDTEGTGVRDYIHVVDLAKGHIAALRKLKEQCGCRIYNLGTGTGYSVLQM
 VQAMEKASGKKIPYKVVARREGDVAACYANPSLAQEELGWTAALGLDRMCEDLWRWQKQNPSTGFGTQA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6301_d03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000403

ORF Size: 1044 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000403.4](#)

RefSeq Size: 1647 bp

RefSeq ORF: 1047 bp

Locus ID: 2582

UniProt ID: [Q14376](#)

Cytogenetics: 1p36.11

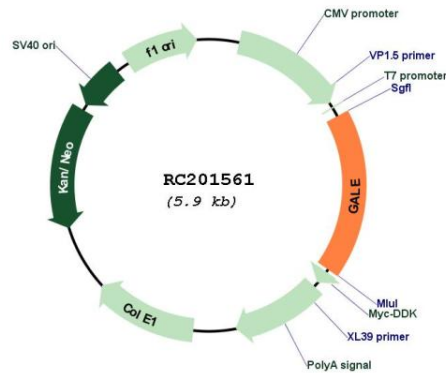
Protein Families: Druggable Genome

Protein Pathways: Amino sugar and nucleotide sugar metabolism, Galactose metabolism, Metabolic pathways

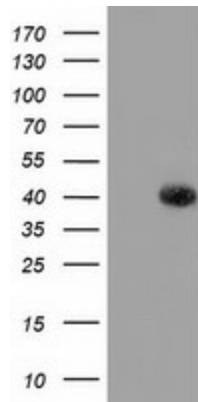
MW: 38.3 kDa

Gene Summary: 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 cognitive disability, with symptoms ranging from mild ('peripheral' form) to severe ('generalized' form). Multiple alternatively spliced transcripts encoding the same protein have been identified. [provided by RefSeq, Jul 2008]

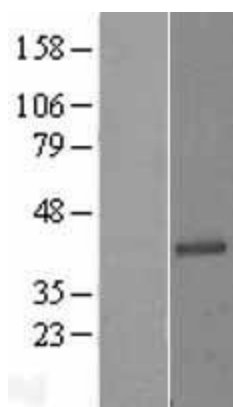
Product images:



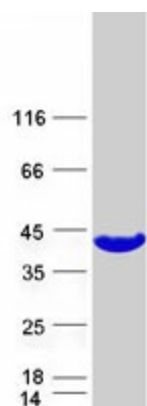
Circular map for RC201561



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GALE (Cat# RC201561, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GALE (Cat# [TA502146]). Positive lysates [LY424739] (100ug) and [LC424739] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY426826]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC225521] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GALE protein (Cat# [TP301561]). The protein was produced from HEK293T cells transfected with GALE cDNA clone (Cat# RC201561) using MegaTran 2.0 (Cat# [TT210002]).