

Product datasheet for RC202309

GAPDH (NM_002046) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GAPDH (NM_002046) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GAPDH
Synonyms:	G3PD; GAPD; HEL-S-162eP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC202309 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGGAAGGTGAAGGTCGGAGTCAACGGATTTGGTCGTATTGGGCGCCTGGTCACCAGGGCTGCTTTTA
ACTCTGGTAAAGTGGATATTGTTGCCATCAATGACCCCTTCATTGACCTCAACTACATGGTTTACATGTT
CCAATATGATTCCACCCATGGCAAATTCATGGCACCGTCAAGGCTGAGAACGGGAAGCTTGTCAAT
GGAAATCCCATCACCATCTCCAGGAGCGAGATCCCTCCAAAATCAAGTGGGCGATGCTGGCGCTGAGT
ACGTCGTGGAGTCCACTGGCGTCTTACCACCATGGAGAAGGCTGGGGCTCATTTGCAGGGGGAGCCAA
AAGGGTCATCATCTGCCCCCTGCTGATGCCCCATGTTTCGTATGGGTGTGAACCATGAGAAGTAT
GACAACAGCCTCAAGATCATCAGCAATGCCTCCTGCACCACCAACTGCTTAGCACCCCTGGCCAAGGTCA
TCCATGACAACTTTGGTATCGTGAAGGACTCATGACCACAGTCCATGCCATCACTGCCACCCAGAAGAC
TGTGGATGGCCCCCTCCGGGAAACTGTGGCGTGTGGCCGCGGGGCTCTCCAGAACATCATCCCTGCCTCT
ACTGGCGTGCCAAGGCTGTGGGCAAGTCACTCCCTGAGCTGAACGGGAAGTCACTGGCATGGCCTTCC
GTGTCCCCACTGCCAACGTGTAGTGGTGGACCTGACCTGCCGTCTAGAAAACTGCCAAATATGATGA
CATCAAGAAGGTGGTGAAGCAGGCGTCGGAGGGCCCCCTCAAGGGCATCCTGGGCTACACTGAGCACCAG
GTGGTCTCCTGACTTCAACAGCGACACCCACTCCTCCACCTTTGACGCTGGGGCTGGCATTGCCCTCA
ACGACCACTTTGTCAAGCTCATTTCCTGGTATGACAACGAATTTGGCTACAGCAACAGGGTGGTGGACCT
CATGGCCACATGGCCTCCAAGGAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



[View online »](#)

Protein Sequence: >RC202309 protein sequence
Red=Cloning site Green=Tags(s)

MGKVKVGVNGFGRIGRLVTRAAFNSGKVDIVAINDPFDLNYMVYMFQYDSTHGKFHGTVKAENGLVIN
 GNPITIFQERDPSKIKWDAGAEYVVESTGVFTTMEKAGAHLQGGAKRVIISAPSADAPMFVMGVNHEKY
 DNSLKIISNASCCTNCLAPLAKVIHDNFGIVEGLMTTVHAITATQKTVDGPGSKLWRDGRGALQNIIPAS
 TGAAKAVGKVIPELNGKLTGMAFRVPTANVSVVDLTCRLEKPAKYDDIKKVVKQASEGPLKGILGYTEHQ
 VVSSDFNSDTHSSTFDAGAGIALNDHFVKLISWYDNEFGYSNRVVDLMAHMASKE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6302_h04.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002046

ORF Size: 1005 bp

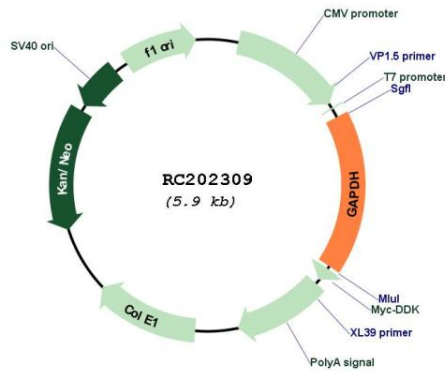
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

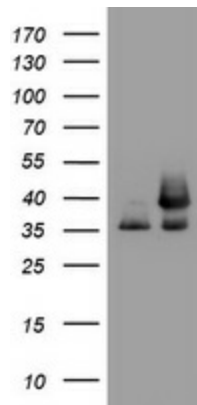
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	<ol style="list-style-type: none">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.
RefSeq:	NM_002046.7
RefSeq Size:	1421 bp
RefSeq ORF:	1008 bp
Locus ID:	2597
UniProt ID:	P04406
Cytogenetics:	12p13.31
Domains:	gpdh
Protein Families:	ES Cell Differentiation/IPS
Protein Pathways:	Alzheimer's disease, Glycolysis / Gluconeogenesis, Metabolic pathways
MW:	36.1 kDa
Gene Summary:	<p>This gene encodes a member of the glyceraldehyde-3-phosphate dehydrogenase protein family. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. The product of this gene catalyzes an important energy-yielding step in carbohydrate metabolism, the reversible oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD). The encoded protein has additionally been identified to have uracil DNA glycosylase activity in the nucleus. Also, this protein contains a peptide that has antimicrobial activity against <i>E. coli</i>, <i>P. aeruginosa</i>, and <i>C. albicans</i>. Studies of a similar protein in mouse have assigned a variety of additional functions including nitrosylation of nuclear proteins, the regulation of mRNA stability, and acting as a transferrin receptor on the cell surface of macrophage. Many pseudogenes similar to this locus are present in the human genome. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Nov 2014]</p>

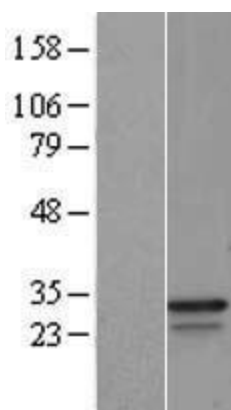
Product images:



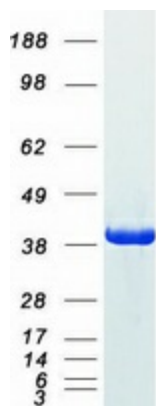
Circular map for RC202309



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GAPDH (Cat# RC202309, 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-GAPDH (Cat# [TA802563]). Positive lysates [LY419567] (100ug) and [LC419567] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419567]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202309 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GAPDH protein (Cat# [TP302309]). The protein was produced from HEK293T cells transfected with GAPDH cDNA clone (Cat# RC202309) using MegaTran 2.0 (Cat# [TT210002]).