

Product datasheet for RC208750

Glutathione S Transferase alpha 1 (GSTA1) (NM_145740) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Glutathione S Transferase alpha 1 (GSTA1) (NM_145740) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glutathione S Transferase alpha 1
Synonyms:	GST-epsilon; GST2; GSTA1-1; GTH1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC208750 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCAGAGAAGCCCAAGCTCCACTACTTCAATGCACGGGGCAGAATGGAGTCCACCCGGTGGCTCCTGG
CTGCAGCTGGAGTAGAGTTTGAAGAGAAATTTATAAAATCTGCAGAAGATTTGGACAAGTTAAGAAATGA
TGGATATTTGATGTTCCAGCAAGTGCCAATGGTTGAGATTGATGGGATGAAGCTGGTGCAGACCAGAGCC
ATTCTCAACTACATTGCCAGCAAATACAACCTCTATGGGAAAGACATAAAGGAGAGAGCCCTGATTGATA
TGTATATAGAAGGTATAGCAGATTTGGGTGAAATGATCCTCCTTCTGCCGTATGTCCACCTGAGGAAAA
AGATGCCAAGCTTGCCTTGATCAAAGAGAAAAATAAAAAATCGCTACTTCCCTGCCTTTGAAAAAGTCTTA
AAGAGCCATGGACAAGACTACCTTGTGGCAACAAGCTGAGCCGGGCTGACATTCATCTGGTGGAACTTC
TCTACTACGTCGAGGAGCTTGACTCCAGTCTTATCTCCAGCTTCCCTCTGCTGAAGGCCCTGAAAACCG
AATCAGCAACCTGCCACAGTGAAGAAGTTTCTACAGCCTGGCAGCCCAAGGAAGCTCCCATGGATGAG
AAATCTTTAGAAGAAGCAAGGAAGATTTTCAGGTTT

ACGCGTACGCGGGCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC208750 protein sequence
 Red=Cloning site Green=Tags(s)

MAEKPKLHYFNARGRMESTRWLLAAAGVEFEKFIKSAEDLDKLRNDGYLMFQQVPMVEIDGMKLVQTRA
 ILNYIASKYNLYGKDIKERALIDMYIEGIADLGEMILLPVCPEEKDAKLALIKEKIKNRYFPAFKVL
 KSHGQDYL VGKLSRADIHLVELLYVEELDSSLISSFPLLKALKTRISNLPVKKFLQPGSPRKPMPDE
 KSLEEARKIFRF

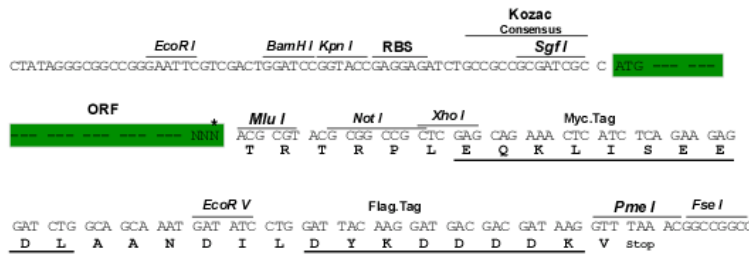
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6267_g07.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_145740

ORF Size: 666 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.

RefSeq: [NM_145740.5](#)

RefSeq Size: 1276 bp

RefSeq ORF: 669 bp

Locus ID: 2938

UniProt ID: [P08263](#)

Cytogenetics: 6p12.2

Domains: GST_N, GST_C

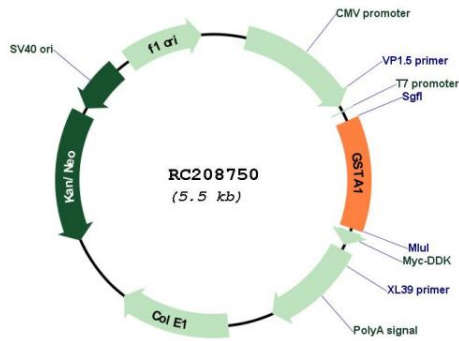
Protein Families: Druggable Genome

Protein Pathways: Drug metabolism - cytochrome P450, Glutathione metabolism, Metabolism of xenobiotics by cytochrome P450

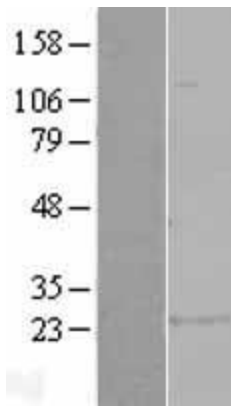
MW: 25.6 kDa

Gene Summary: This gene encodes a member of a family of enzymes that function to add glutathione to target electrophilic compounds, including carcinogens, therapeutic drugs, environmental toxins, and products of oxidative stress. This action is an important step in detoxification of these compounds. This subfamily of enzymes has a particular role in protecting cells from reactive oxygen species and the products of peroxidation. Polymorphisms in this gene influence the ability of individuals to metabolize different drugs. This gene is located in a cluster of similar genes and pseudogenes on chromosome 6. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jan 2016]

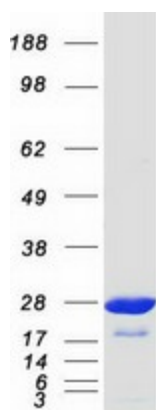
Product images:



Circular map for RC208750



Western blot validation of overexpression lysate (Cat# [LY407870]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208750 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GSTA1 protein (Cat# [TP308750]). The protein was produced from HEK293T cells transfected with GSTA1 cDNA clone (Cat# RC208750) using MegaTran 2.0 (Cat# [TT210002]).