

Product datasheet for **RG210763**

Catalase (CAT) (NM_001752) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Catalase (CAT) (NM_001752) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Catalase
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RG210763 representing NM_001752
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGCTGACAGCCGGGATCCCGCCAGCAGCAGATGCAGCACTGGAAGGAGCAGCGGGCCGCGCAGAAAAG
 CTGATGTCTGACCACTGGAGCTGGTAACCCAGTAGGAGACAACTTAATGTTATTACAGTAGGGCCCCG
 TGGCCCCCTTCTTGTTCAGGATGTGTTTTCACTGATGAAATGGCTCATTTTGACCGAGAGAGAATTCCT
 GAGAGAGTTGTGCATGCTAAAGGAGCAGGGCCTTTGGCTACTTTGAGGTCACACATGACATTACCAAAT
 ACTCCAAGGCAAAGGATTTGAGCATATTGAAAGAAGACTCCCATCGCAGTTCGGTTCTCCACTGTTGC
 TGGAGAATCGGGTTCAGCTGACACAGTTCGGGACCCTCGTGGGTTTGCAGTGAAATTTACACAGAAGAT
 GGTAACTGGGATCTCGTTGAAAATAACACCCCATTTTCTTCATCAGGGATCCCATTGTTCCATCTT
 TTATCCACAGCCAAAAGAGAAATCCTCAGACACATCTGAAGGATCCGGACATGGTCTGGGACTTCTGGAG
 CCTACGTCTGAGTCTGCATCAGTTTCTTTCTTGTTCAGTGATCGGGGATTCCAGATGGACATCGC
 CACATGAATGGATATGGATCACATACTTCAAGCTGGTTAATGCAAATGGGGAGGAGTTTATTGCAAAT
 TCCATTATAAGACTGACCAGGGCATCAAAAACCTTTCTGTTGAAGATGCGGCGAGACTTTCCAGGAAGA
 TCCTGACTATGGCATCCGGGATCTTTTAAACGCCATTGCCACAGGAAAGTACCCCTCTGGACTTTTAC
 ATCCAGGTCATGACATTAATCAGGCAGAACTTTTCCATTTAATCCATTCGATCTACCAAGGTTTGGC
 CTCACAAGGACTACCTCTATCCCAGTTGGTAAACTGGTCTTAAACCGGAATCCAGTTAATTACTTTGC
 TGAGGTTGAACAGATAGCCTTCGACCAAGCAACATGCCACCTGGCATTGAGGCCAGTCTGACAAAATG
 CTTCAGGGCCGCCTTTTGCCTATCCTGACACTACCCGCATCGCTGGGACCAATTATCTTCATATAC
 CTGTGAAGTGTCCCTACCGTGTCTGAGTGGCCAACTACCAGCTGATGGCCGATGTGCATGCAGGACAA
 TCAGGGTGGTGTCCAAATTAACCCCAACAGCTTTGGTGTCCGGAACAACAGCCTTCTGCCCTGGAG
 CACAGCATCCAATATTCTGGAGAAGTGGGAGATTCAACACTGCCAATGATGATAACGTTACTCAGTGC
 GGGCATTCTATGTGAACGTGCTGAATGAGGAACAGAGGAAACGTCTGTGTGAGAACATTGCCGGCCACT
 GAAGGATGCACAAATTTTCATCCAGAAGAAAGCGGTCAAGAACTCACTGAGGTCCACCCTGACTACGGG
 AGCCACATCCAGGCTCTTCTGGACAAGTACAATGCTGAGAAGCCTAAGAATGCGATTACACCTTTGTGC
 AGTCCGGATCTCACTTGGCGCAAGGGAGAAGGCAATCTG

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG210763 representing NM_001752
 Red=Cloning site Green=Tags(s)

MADSRDPASDQMHWKEQRAAQKADVLTTGAGNPVGDKLNIVITVGPRGPLLVQDVVFTDEMAHFDRERIP
 ERVVHAKGAGAFGYFEVTHDITKYSKAKVFEHIGKKTPIAVRFSTVAGESGSADTVRDPRGFVVKFYTED
 GNWDLVGNNTPIFFIRDPILFSPFIHSQKRNPTHLKDPDMVWDFWLSRPELHQVSFLFSDRGIPDGRH
 HMNGYGSHTFKLVNANGEAVYCKFHYKTDQGIKNL SVEDAARLSQEDPDYGIRDLFNAIATGKYPSWTFY
 IQVMTFNQAETFPFNPFDLTKVWPHKDYPLIPVGKLVNLRNPVNYFAEVEQIAFDPSNMPPGIEASPKM
 LQGRLEFAYPDTHRHRLGPNYLHIPPVNCYPYRVRVANYQRDGPMMQDNQGGAPNYYPNSFGAPEQQPSALE
 HSIQYSGEVRRFNTANDDNVTQVRAFVYVNLNEEQQRKRLCENIAGHLKDAQIFIQKKAVKNFTEVHPDYG
 SHIQALLDKYNAEKPKNAIHTFVQSGSHLAAREKANL

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_001752

ORF Size: 1581 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_001752.1](#)

RefSeq Size: 2305 bp

RefSeq ORF: 1584 bp

Locus ID: 847

UniProt ID: [P04040](#)

Cytogenetics: 11p13

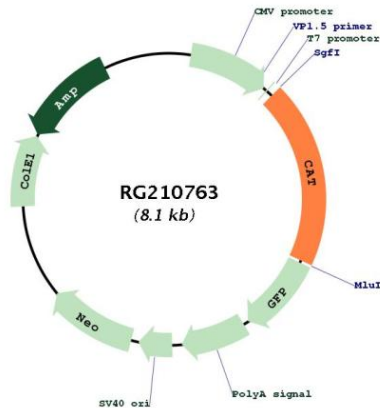
Domains: catalase

Protein Families: Druggable Genome

Protein Pathways: Amyotrophic lateral sclerosis (ALS), Metabolic pathways, Methane metabolism, Tryptophan metabolism

Gene Summary: This gene encodes catalase, a key antioxidant enzyme in the bodies defense against oxidative stress. Catalase is a heme enzyme that is present in the peroxisome of nearly all aerobic cells. Catalase converts the reactive oxygen species hydrogen peroxide to water and oxygen and thereby mitigates the toxic effects of hydrogen peroxide. Oxidative stress is hypothesized to play a role in the development of many chronic or late-onset diseases such as diabetes, asthma, Alzheimer's disease, systemic lupus erythematosus, rheumatoid arthritis, and cancers. Polymorphisms in this gene have been associated with decreases in catalase activity but, to date, acatalasemia is the only disease known to be caused by this gene. [provided by RefSeq, Oct 2009]

Product images:



Circular map for RG210763