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Product datasheet for SC111022

Superoxide Dismutase 1 (SOD1) (NM_000454) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Superoxide Dismutase 1 (SOD1) (NM_000454) Human Untagged Clone
Tag:	Tag Free
Symbol:	Superoxide Dismutase 1
Synonyms:	ALS; ALS1; HEL-S-44; homodimer; hSod1; IPOA; SOD; STAHP
Mammalian Cell Selection:	None
Vector:	pCMV6-XL5
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

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>OriGene ORF within SC111022 sequence for NM_000454 edited (data generated by NextGen Sequencing)
ATGGCGACGAAGGCCGTGTGCGTGCTGAAGGGCGACGGCCCAGTGCAGGGCATCATCAAT
TTCGAGCAGAAGGAAAGTAATGGACCAGTGAAGGTGTGGGGAAGCATTAAAGGACTGACT
GAAGGCCTGCATGGATTCCATGTTCATGAGTTTGGAGATAATACAGCAGGCTGTACCAGT
GCAGGTCCTCACTTTAATCCTCTATCCAGAAAACACGGTGGGCCAAAGGATGAAGAGAGG
CATGTTGGAGACTTGGGCAATGTGACTGCTGACAAAGATGGTGTGGCCGATGTGTCTATT
GAAGATTCTGTGATCTCACTCTCAGGAGACCATTGCATCATTGGCCGCACACTGGTGGTC
CATGAAAAAGCAGATGACTTGGGCAAAGGTGGAAATGAAGAAAGTACAAAGACAGGAAAC
GCTGGAAGTCGTTTGGCTTGTGGTGTAATTGGGATCGCCCAATAA

Clone variation with respect to NM_000454.4
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5' Read Nucleotide Sequence:

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>OriGene 5' read for NM_000454 unedited
ACCGGTTTTGAAACCGACTCATATAGGCGGCAACCAATTCGCACGAGGTGCTGGTTTGCG
TCGTAGTCTCCTGCAGCGTCTGGGGTTTCCGTTGCAGTCCTCGGAACCAGGACCTCGGCG
TGGCCTATCGAGTTATGGCGACGAAGGCCGTGTGCGTGCTGAAGGGCGACGGCCCAGTGC
AGGGCATCATCAATTTCGAGCAGAATGTTTTTTATGGACCAGTGAAGGTGTGGGGAAGCA
TTAAAGGACTGACTGAAGGCCTGCATGGATTCCATGTTCATGAGTTTGGAGATAATACAG
CAGGCTGTACCAGTGCAGGTCCTCACTTTAATCCTCTATCCAGAAAACACGGTGGGCCAA
AGGATGAAGAGAGGCATGTTGGAGACTTGGGCAATGTGACTGCTGACAAAGATGGTGTGG
CCGATGTGTCTATTGAAGATTCTGTGATCTCACTCTCAGGAGACCATTGCATCATTGGCC
GCACACTGGTGGTCCATGAAAAAGCAGATGACTTGGGCAAAGGTGGAAATGAAGAAAGTA
CAAAGACAGGAAACGCTGGAAGTCGTTTGGCTTGTGGTGTAATTGGGATCGCCCAATAAA
CATTCCCTTGGATGTAGTCTGAGGCCCCTTAACTCATCTGTTATCCTGCTAGCTGTAGAA
ATGTATCCTGATAAACATTAAACACTGTAATCTTAAAAGTGTAATTGTGTGACTTTTTCA
GAGTTGCTTTAAAGTACCTGTAGTGAGAAACTGATTTATGATCACTTGGAAGATCTGTAT
AGNTTTATAAAACTCAGTTAAAATGTCTGTTTCAATGACCTGTATTTTGCCACGACTTAA
TCACAGATGGGTATTAAACCTGTCAGAATTTCTTGTCATTCAAGCCTTGAATAAAAAACC
TGTATGGCACTTTTAA
```

3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_000454 unedited
GTCTGCCCGCGGCCGCATCTAGGTCGGCTTTTTTTTTTTTTTTTTGAATTTGGATTCTTT
TAATAGCCTCATAATAAGTGCCATACAGGGTTTTTATTCACAGGCTTGAATGACAAAGAA
ATTCTGACAAGTTTAATACCCATCTGTGATTTAAGTCTGGCAAAATACAGGTCATTGAAA
CAGACATTTTAACTGAGTTTTATAAAACTATACAAATCTTCCAAGTGATCATAAATCAGT
TTCTCACTACAGGTACTTTAAAGCAACTCTGAAAAAGTCACACAATTACACTTTTAAGAT
TACAGTGTTTAATGTTTATCAGGATACATTTCTACAGCTAGCAGGATAACAGATGAGTTA
AGGGGCCTCAGACTACCTCCACGGGAATGTTTATCGGGCGATCCCAATTACACCACAAGC
CAAACGACTTCCAGCGTTTCCTGTCTTTGCACTTTCTTCATTTTCACCTTTGCCCAAGTC
ATCTGCTTTTTCATGGACCACCAGTGTGCGGCCAATGATGCAATGGTCTCCTGAGAGTGA
GATCACAGAATCTTCACTAGACACATCGGCCACACCATCTTTGTCAGCAGCCACATTGCC
CAAGTCTCCAACATGCCTCTNTTTATCCTTTGGCCCACCGTGTTTTCTGGATAGAGGATC
AAAGTGATGACCCTGTCCTGTCACCGCCTGCTGTATTATCTCCAAACTCATGAACATGGC
ATCCACTGCGGCCCTAACTCACCTCTTTAATGCTTCCCCAACCCTTACTGGCCATTCACT
TCCTTTTTGCTCGACAATGATGAATGCCCTGCCCTGAGCCCGTCGTCCTTTTTCCCCCCC
AACGCACTTTGTTCCCCTCACCTCCGTTTAGCCCCGCCCCAGTTCCTGGCTTCCAGGGAC
TGCAACCGAAACCCCACAACCCTGGAGGAGAATACGAGCCAAACCATATACCGCCGCGCG
CATTCCCG
```

Restriction Sites: NotI-NotI

ACCN: NM_000454

Insert Size: 940 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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).

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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_000454.4, NP_000445.1
RefSeq Size:	981 bp
RefSeq ORF:	465 bp
Locus ID:	6647
UniProt ID:	P00441
Cytogenetics:	21q22.11
Domains:	sodcu
Protein Families:	Druggable Genome
Protein Pathways:	Amyotrophic lateral sclerosis (ALS), Huntington's disease, Prion diseases
Gene Summary:	The protein encoded by this gene binds copper and zinc ions and is one of two isozymes responsible for destroying free superoxide radicals in the body. The encoded isozyme is a soluble cytoplasmic protein, acting as a homodimer to convert naturally-occuring but harmful superoxide radicals to molecular oxygen and hydrogen peroxide. The other isozyme is a mitochondrial protein. In addition, this protein contains an antimicrobial peptide that displays antibacterial, antifungal, and anti-MRSA activity against E. coli, E. faecalis, S. aureus, S. aureus MRSA LPV+, S. agalactiae, and yeast C. krusei. Mutations in this gene have been implicated as causes of familial amyotrophic lateral sclerosis. Rare transcript variants have been reported for this gene. [provided by RefSeq, Jul 2020]

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