

Product datasheet for **SC320505**

GTP cyclohydrolase 1 (GCH1) (NM_000161) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GTP cyclohydrolase 1 (GCH1) (NM_000161) Human Untagged Clone
Tag:	Tag Free
Symbol:	GTP cyclohydrolase 1
Synonyms:	DYT5; DYT5a; DYT14; GCH; GTP-CH-1; GTPCH1; HPABH4B
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF:

>OriGene sequence for NM_000161.2
 CCGGCTCGGAGTGTGATCTAAGCAGGTCGCGTACCTTCCTCAGGTGACTCCGGCCACAGC
 CCATTGTCCGCGGCCACCGGCGGAGTTTAGCCGCAGACCTCGAAGCGCCCCGGGGTCTT
 CCCGAACGGCAGCGGCTGCGGCGGGTCCATGGAGAAGGGCCCTGTGCGGGCACCGGCGGA
 GAAGCCGCGGGGCGCCAGGTGCAGCAATGGGTTCCCGAGCGGGATCCGCCGCGGCCCGG
 GCCCAGCAGGCCGCGGAGAAGCCCGCGGCCGAGGCCAAGAGCGCGCAGCCCGCGGA
 CGGTGGAAAGGGCGAGCGCCCGCAGCGAGGAGGATAACGAGCTGAACCTCCCTAACCT
 GGCAGCCGCCTACTCGTCCATCCTGAGCTCGCTGGGCGAGAACCCCGAGCGCAAGGGCT
 GCTCAAGACGCCCTGGAGGGCGGCTCGGCCATGCAGTCTTACCAAGGGCTACCAGGA
 GACCATCTCAGATGTCCTAAACGATGCTATATTTGATGAAGATCATGATGAGATGGTGAT
 TGTGAAGGACATAGACATGTTTTCCATGTGTGAGCATCACTTGGTTCCATTTGTTGGAAA
 GGTCCATATTGGTTATCTTCTAACAAGCAAGTCTTGGCCTCAGCAAACCTTGCAGGAT
 TGTAGAAATCTATAGTAGAAGACTACAAGTTCAGGAGCGCCTTACAAAACAAATTGCTGT
 AGCAATCACGGAAGCCTTGCAGCCTGCTGGAGTCGGGGTGTGGTTGAAGCAACACACAT
 GTGTATGGTAATGCGAGGTGTACAGAAAATGAACAGCAAACTGTGACCAGCACAATGTT
 GGGTGTGTTCCGGGAGGATCCAAAGACTCGGGAAGAGTTCCTGACTCTCATTAGGAGCTG
 AGTTCATTCAAGTGTGTGTGCGTTGGTTGCCGATCGTACTGCCAGTAGCATTGTCTGTCT
 GTCCGGTCTTGTGTTGTACATTCCATTTTCAATTGTTACAGATGTGAACCTTATTCCTTGT
 CACTAATTATATTTAAAATTTATTTCTAGGAAGTCAAATAAATAAATAAAGGGTTGAGCC
 CTCTACTTTCTTCTTCCACCTTTTTGTGGCAATATTAAGTGAAGTGTAAATAGTGTA
 GTACGTGCACAAAACACTGCCAGATAACCAGAGGGGCTGGGAAGGGAGAAGAATTAGT
 GTATTTTTTCAAATAGTACAGTAATTTGCCTCATAAGCATAGGAGCATTGGGAATGAGA
 GGGAACTGTGCCAGTACTGTTTTTTTTTTCTTCTCCAATAAAAGTGGTGTAGTGCCGA
 AAGTGCTAAAATATTTAGTGCAGTATTGCTCTGTGAATTCAGTTCAACAGACTTCACTT
 TGGTCATGTTTATAAACACCAGTGACATTTAAAATATATTTTTAGCAGTCGTAATGT
 TAGTCACCAAGGGAAGGTGGTGAATGTCTATGTTTTGATTTTACTGTGAGTAAAAAG
 GCACATTTCTACCTTCTATTGTTTTTAAATTCAGAATAGGGAATTAGTTCCTGGTGTTG
 TTTACGAGTGTATTCTCGTGTCAACATACAGGGATTTAGACATTTAACTCTCTGTGCCTT
 GATAAGAATATCATTTAGAGTGTAGATACTTTTGCCTTTTTAAAAAGCCATTATTTTAT
 GAGACTTAGTACTCACACTGCAATAACTAGTCAGCTCAGTTTTAACTTTATAGGTTTAT
 TGAGTTTCTTTGTGTGATCCATGTAGATGCCTCAAATGTTTCTTCTTCTTTTTTTT
 TAATCTTATAAGATATTTTCTAAGTATTTCCAGAAACATTTGAGAGTGCCCATCATTTT
 CAGGTCTGCAGAACCATAGCTTCCACGCACCTGAACGAGCACAGAATGAACTGACGGTGG
 AAGACATTATGAGCTGTGTCCAACGTTTTAACCAGCGTATCGTACCAACGATCTGTGA
 AAATGCACTGGAAGCTTCTGGTCCCGGTTTCTTTGTGGTCTATGTGGGTCTTGCCTCA
 TTGTAACCTCCGTATAGATGGTATAGGTATTTAATCCTGGAAGCTGTTGCCTTATTAATG
 ATTATCTTAAAATTTCTCCATTGGGGCAGCGTGGGCCAAATTAACAAACAAAACCCG
 AACTCTCCACAGAAACACAAACACAGTTATCCATGAAGTTTAGTATTTGGTTGACATA
 GTGCTCTTCAAATTCATCCCATACCCTAAAAGTAATAACTTTGATGCTTGCTTTAACTT
 TAGTCCCATCTCTGCCACTTTGATGCTATTTGGGTTATGATGGGCAAGATGGCAGAGGT
 ATTGGGTTTTTTTTGTTTTTCCATTCCTCTCTACTTCTGTTTCTAGCTTTTTCTTTT
 TGGAGTTAAAGTACAGTGTGGTTGGCTTGGTACCTTTTTAAATCTAGCCAGTATAAA
 CATTAGCCTGCTTAATATTTAGACATTTATAGGTAGAATTCTGAGCACTCAACTCATGTT
 TGGCATTTTAAAGTAAAAACAAGTGTGACTTCGAGGACCAAGAAATTGTCAGCTATACA
 TTTATCTTTAAGACTCATTTATATTCCTTTTTAATGACTCGTTGTTCTAACATTTCTA
 GAAGTGTCTTATAAAGGTCTAATGTATCCACAGGCTGTTGTCTTATTAGTAAATGCAAA
 GTAATGACTTTGTCTGTTTTACTCTAGTCTTTAGTACTTCAAATACCTTTTCATATCC
 ATGATCTTGAGTCCATTTGGGGGATTTTAAAGAAATTTGATGTATTCAATACACTGTTCA
 AAATTAATTTGTTAATTTTATGTATGAGTATGTATGTTCCCTGAAGTTGGTCTATTTAA
 ATTATTAACCTATTGTAACCTTAAAAAAAAAAAAAAAAAAAA

Restriction Sites:

Please inquire

ACCN:	NM_000161
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).
OTI Annotation:	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
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_000161.2 , NP_000152.1
RefSeq Size:	2941 bp
RefSeq ORF:	753 bp
Locus ID:	2643
UniProt ID:	P30793
Cytogenetics:	14q22.2
Domains:	GTP_cyclohydrol
Protein Families:	Druggable Genome
Protein Pathways:	Folate biosynthesis, Metabolic pathways
Gene Summary:	<p>This gene encodes a member of the GTP cyclohydrolase family. The encoded protein is the first and rate-limiting enzyme in tetrahydrobiopterin (BH4) biosynthesis, catalyzing the conversion of GTP into 7,8-dihydroneopterin triphosphate. BH4 is an essential cofactor required by aromatic amino acid hydroxylases as well as nitric oxide synthases. Mutations in this gene are associated with malignant hyperphenylalaninemia and dopa-responsive dystonia. Several alternatively spliced transcript variants encoding different isoforms have been described; however, not all variants give rise to a functional enzyme. [provided by RefSeq, Jul 2008]</p> <p>Transcript Variant: This variant (1), also known as Type I, represents the longest transcript. Variants 1 and 2 encode the longest isoform (1), which is the active enzyme.</p>