

## Product datasheet for **RG214812**

### Tyrosine Hydroxylase (TH) (NM\_199292) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Tyrosine Hydroxylase (TH) (NM_199292) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Tyrosine Hydroxylase
Synonyms:	DYT5b; DYT14; TYH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG214812 representing NM\_199292  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCACCCCGACGCCACCACGCCACAGGCCAAGGGCTTCCGCAGGGCCGTGTCTGAGCTGGACGCCA  
 AGCAGGCAGAGGCCATCATGGTAAGAGGGCAGGGCGCCCCGGGGCCAGCCTCACAGGCTCTCCGTGGCC  
 TGGAACTGCAGCCCCAGCTGCATCCTACACCCCAACCCAAAGGTCGCCGGTTCATTGGGCGCAGGCAG  
 AGCCTCATCGAGGACGCCCGCAAGGAGCGGGAGGCGGGTGGCAGCAGCGGCCGCTGCAGTCCCCTCGG  
 AGCCCCGGGACCCCTGGAGGCTGTGGCCTTTGAGGAGAAGGAGGGGAAGCCGTGCTAAACCTGCTCTT  
 CTCCCCGAGGGCCACCAAGCCCTCGGCGCTGTCCCGAGCTGTGAAGGTGTTTGAAGACGTTTGAAGCCAAA  
 ATCCACCATCTAGAGACCCGGCCCGCCAGAGGCCGCGAGCTGGGGGCCCCACCTGGAGTACTTCGTGC  
 GCCTCGAGGTGCGCCGAGGGGACCTGGCCGCCCTGCTCAGTGGTGTGCGCCAGGTGTGAGGACGTGCG  
 CAGCCCCGCGGGCCCAAGGTCCCTGGTTCCTCAAGAAAAGTGTGAGAGCTGGACAAGTGTATCACCTG  
 GTACCAAAGTTCGACCCTGACCTGGACTTGGACCACCCGGGCTTCTCGGACCAGGTGTACCGCCAGCGCA  
 GGAAGCTGATTGCTGAGATCGCCTTCCAGTACAGGCACGGCGACCCGATTCCCCGTGTGGAGTACACCGC  
 CGAGGAGATTGCCACCTGGAAGGAGGTCTACACCACGCTGAAGGGCCTCTACGCCACGCACGCCTGCGGG  
 GAGCACCTGGAGGCTTTGCTTTGCTGGAGCGCTTACGCGGTACCGGGAAGACAATATCCCCAGCTGG  
 AGGACGTCTCCCGCTTCTGAAGGAGCGCACGGGCTTCCAGTGCAGCCAGTATATCCGCCACGCGTCTCG  
 CCGGACTTCTGGCCAGCCTGGCCTTCCGCGTGTCCAGTGCACCCAGTATATCCGCCACGCGTCTCG  
 CCCATCGACTCCCCTGAGCCGGACTGCTGCCACGAGCTGCTGGGGCACGTGCCATGCTGGCCGACCGCA  
 CCTTCGCGCAGTTCTCGCAGGACATTGGCTGGCCTCCCTGGGGCCTCGGATGAGGAAATGAGAAGT  
 GTCCACGCTGTATGGTTACGGTGGAGTTCGGGCTGTGTAAAGCAGAACGGGGAGGTGAAGGCCTATGGT  
 GCCGGGCTGTGTCTCTACGGGGAGCTCCTGCACTGCCTGTCTGAGGAGCCTGAGATTCGGGCCCTTCG  
 ACCCTGAGGCTGCGGCCGTGCAGCCCTACCAAGACCAGACGTACCAGTCACTTCTGCTGTGAGAG  
 CTTCAAGTACGCCAAGGACAAGCTCAGGAGCTATGCCTCACGCATCCAGCGCCCCCTTCTCCGTGAAGTTC  
 GACCCGTACAGCTGGCCATCGACGTGCTGGACAGCCCCAGGCCGTGCGGCGCTCCCTGGAGGGTGTCC  
 AGGATGAGCTGGACACCCTTGCCATGCGCTGAGTCCATTGGC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

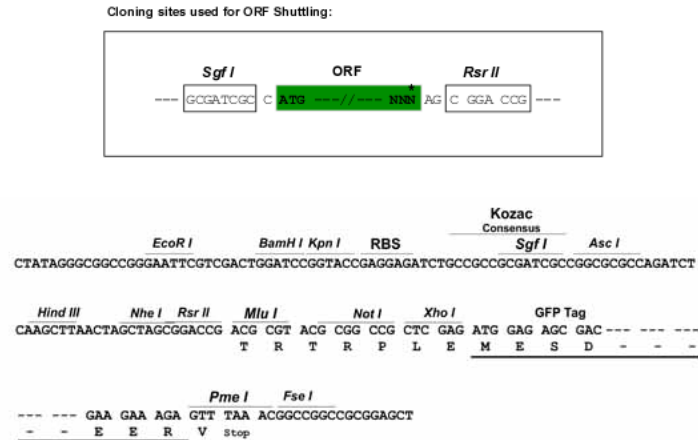
>RG214812 representing NM\_199292  
 Red=Cloning site Green=Tags(s)

MPTPDATTPQAKGFRRVSELDKQAEAIMVRGQGAPGSLTGSPWPGTAAAPAASYTPRSPRFIGRRQ  
 SLIEDARKEREA AVAAAAAVPSEPGDPLEAVAFEEKEGKAVLNLLFSRATKPSALSRAVKVFETFEAK  
 IHHLETRPAQRPRAGPHLEYFVRLVRRGDLAALLSGVRQVSEDRSPAGPKVPWFPRKVSLEDKCHHL  
 VTKFDPDLDLHPGFSQVYRQRRLIAEIAFQYRHGDPVPRVEYTAEEIATWKEVYTTLKGLYATHACG  
 EHLEAFALLERFSGYREDNIPQLEDVSRFLKERTGFQLRPVAGLLSARDFLASLAFRVFQCTQYIRHASS  
 PMHSPEPDCHELLGHVPLADRTFAQFSQDIGLASLGASDEEIEKLSTLSWFTVEFGLCKQNGEVKAYG  
 AGLLSSYGELLHCLSEEPERAFDPEAAAVQPYQDQTYQSVYFVSEFSDAKDKLRSYASRIQRPFVVKF  
 DPYTLAIDVLDSPQAVRRSLEGVQDELDTLAHALSAIG

SGP**TRTRRLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-RsrII

**Cloning Scheme:**


**ACCN:** NM\_199292

**ORF Size:** 1584 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\\_199292.1](#), [NP\\_954986.1](#)

**RefSeq Size:** 1921 bp

**RefSeq ORF:** 1587 bp

**Locus ID:** 7054

**UniProt ID:** [P07101](#)

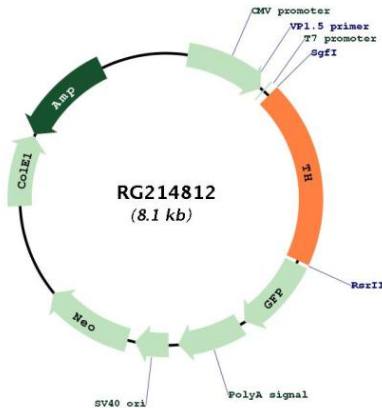
**Cytogenetics:** 11p15.5

**Protein Families:** Druggable Genome

**Protein Pathways:** Metabolic pathways, Parkinson's disease, Tyrosine metabolism

**Gene Summary:** The protein encoded by this gene is involved in the conversion of tyrosine to dopamine. It is the rate-limiting enzyme in the synthesis of catecholamines, hence plays a key role in the physiology of adrenergic neurons. Mutations in this gene have been associated with autosomal recessive Segawa syndrome. Alternatively spliced transcript variants encoding different isoforms have been noted for this gene. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG214812