

Product datasheet for **RG226830**

GPT2 (NM_001142466) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GPT2 (NM_001142466) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GPT2
Synonyms:	ALT2; GPT 2; MRT49; NEDSPM
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG226830 representing NM_001142466
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCAGCGGGCGGCGGCGTGGTCCGGCGGGGCTGTGGTCCCGGACCCAGCTCCTGGGGCCGACGCC
 AGAGCAGCGCGGCCGCCAGGCCTCGGCCGTGCTCAAGGTGCGGCCCGAGCGCAGCCGGCGGAGCGCAT
 CCTCACGCTGGAGTCCATGAACCCGAGGTGAAGGCGGTGGAGTACGCCGTGCGGGGACCCATCGTGCTC
 AAGCCGCGGAGATCGAGCTCGAGCTGCAGCGGGTATCAAAAAGCCATTACAGAGGTCAATCCGAGCCA
 ACATCGGGGACGCCAGGCTATGGGGCAGCAGCCAATCACCTTCTCCGGCAGGTGATGGCACTATGCAC
 CTACCCAAACCTGCTGGACAGCCCCAGCTTCCAGAAGATGCTAAGAAACGTGCCGGCGGATCCTGCAG
 GCTTGTGGCGGGAACAGCCTGGGTCTACAGTGTAGCCAGGGTGTCAACTGCATCCGTGAAGATGTGG
 CTGCTACATCACCAGGAGGGATGGCGGTGTGCCTGCGGACCCCGACAACATCTACTGACCACGGGAGC
 TAGTGACGGCATTCTACGATCCTGAAGATCCTCGTCTCCGGGGCGGCAAGTCACGGACAGGTGTGATG
 ATCCCATCCACAATATCCCTCTATTAGCTGTCATCTCTGAGCTCGACGCCATCCAGGTGAATTACT
 ACCTGGACGAGGAGAAGTCTGGGCGTGAATGTGAATGAGTCCGGCGGGCGGTGCAGGAGGCCAAAGA
 CCACTGTGATCCTAAGGTGCTCTGCATAATCAACCCTGGGAACCCACAGGCCAGGTACAAGCAGAAAAG
 TGCATAGAAGATGTGATCCACTTTGCCTGGGAAGAGAAGCTCTTTCTCCTGGCTGATGAGGTGTACCAGG
 ACAACGTGTACTCTCCAGATTGCAGATTCCACTCCTTCAAGAAGGTGCTGTACGAGATGGGGCCCGAGTA
 CTCCAGCAACGTGGAGCTCGCTCCTTCCACTCCACTCCAAGGGCTACATGGGCGAGTGTGGTTACAGA
 GGAGGCTACATGGAGGTGATCAACCTGCACCCTGAGATCAAGGGCCAGCTGGTGAAGTGTGTCGGTGC
 GCCTTGCCCCCAGTGTCTGGCAGGCCGCCATGGACATTGTCTGTAACCCCGTGGCAGGAGAGGA
 GTCTTTGAGCAATTAGCCGAGAGAAGGAGTCGGTCTGGGTAATCTGGCCAAAAAAGCAAAGCTGACG
 GAAGACCTGTTTAACCAAGTCCCAGGAATTCAGTCAACCCCTTGCAGGGGGCCATGTACGCTTCCCTC
 GGATCTTCATTCTGCCAAAGCTGTGGAGGCTGCTCAGGCCCATCAAATGGCTCCAGACATGTTCTACTG
 CATGAAGTCTCTGGAGGAGACTGGCATCTGTGTCGTGCCCGCAGTGGCTTTGGGAGAGGGAAGGCACT
 TACCATTGAGGATGACTATCCTCCCTCCAGTGGAGAAGCTGAAAACGGTGTGCAGAAGGTGAAAGACT
 TCCACATCAACTCCTGGAGAAGTACGCC

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

Protein Sequence:

>RG226830 representing NM_001142466
 Red=Cloning site Green=Tags(s)

MQRAAALVRRGCGPRTPSSWGRSQSSAAAEASAVLKVRPERSRRERILTLESMPQVKAVEYAVRGPVIL
 KAGEIELELQRGIKPPFTEVIRANIGDAQAMGQPIITFLRQVMALCTYPNLLDPSFPEDAKKRARRILQ
 ACGGNSLGSYSASQGVNCIREDVAAYITRRDGGVPADPDNIYLTGASDGIKILVSGGKSRITGVM
 IPIQYPLYSAVISSELDIIVNYLDEENCWALNVNELRRAVQEAQKDHCDPKVLCIINPGNPTGQVQSRK
 CIEDVIHFAWEEKLFLLADEVYQDNVYSPDCRFHFSFKVLVYEMGPEYSSNVELASFHSTSKGYMGECGYR
 GGYMEVINLHPEIKGQLVKLLSVRLCPPVSGQAAMDIVVNPVAGEESFEQFSREKESVLGNLAKKAKLT
 EDLFNQVPGIHCNPLQGAMYAFPRIFIPAKAVEAAQAHQMAPDMFYCMKLEETGICVVPVSGFGQREGT
 YHFRMTILPPVEKLTVLQKVKDFHINFLEKYA

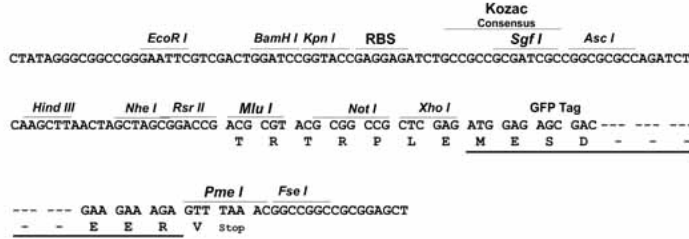
SGP**TRRRLE** - GFP Tag - V

Restriction Sites:

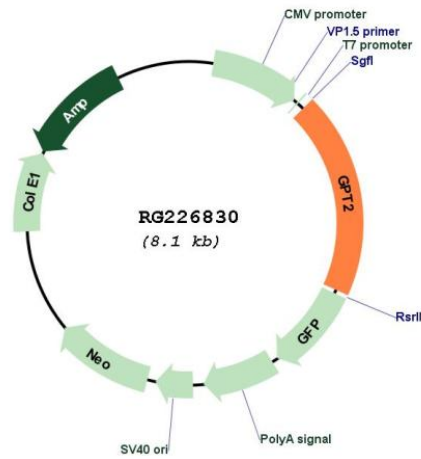
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN:	NM_001142466
ORF Size:	1572 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:	<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_001142466.1 , NP_001135938.1
RefSeq Size:	3879 bp
RefSeq ORF:	1272 bp
Locus ID:	84706
UniProt ID:	Q8TD30
Cytogenetics:	16q11.2
Protein Pathways:	Alanine, aspartate and glutamate metabolism, Metabolic pathways
Gene Summary:	This gene encodes a mitochondrial alanine transaminase, a pyridoxal enzyme that catalyzes the reversible transamination between alanine and 2-oxoglutarate to generate pyruvate and glutamate. Alanine transaminases play roles in gluconeogenesis and amino acid metabolism in many tissues including skeletal muscle, kidney, and liver. Activating transcription factor 4 upregulates this gene under metabolic stress conditions in hepatocyte cell lines. A loss of function mutation in this gene has been associated with developmental encephalopathy. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Apr 2015]