

Product datasheet for **RG215728**

Synaptopodin 2 (SYNPO2) (NM_133477) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Synaptopodin 2 (SYNPO2) (NM_133477) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SYNPO2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG215728 representing NM_133477 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCACAGGGGATTTATCTGCATTTCCATGACTGGAGGGGCGCCCTGGGGTTTCAGATTGCAAGGTG
GCAAGGAGCAGAAGCAGCCCTTACAAGTTGCAAAGATTCGAAATCAGAGCAAAGCCTCTGGGTCTGGGCT
CTGTGAGGGAGATGAAGTGGTTTCCATCAATGGCAACCCTGTGCAGATCTCACCTACCTGAAGTCATC
AAGCTCATGGAAGCATAACAGACTCTCTCAAATGCTCATCAAAGACCATCCAGTGGAAAGTACCAC
CTTTGATATCTGAAATGAAAACAAAACCTCGAGCATCTCACACATGGGGGTTATGTGGAAAGTACCAC
CCTGCAGATTCGACCGGCCACAAAGACCAGTGCACAGAATTCTCCTCGCCCCTGCAAGACTGAAGTT
CCCCTAGCTGAGAACCAAAGAAGTGGTCCCGACTGTGCAGGCAGCTTGAAGAAGAACAAGGCCCGAGCT
ACCAAAGGGCTCCCCAAATGCCTGACTCCCAAAGAGGACGCGTGGCAGAAGAGCTGATCTTAAGGGAGAA
GGTAGAAGCGGTACAGCCTGGGCTGTGGTTGAGCTGCAACTGTCCCTTTCACAGGAGAGACATAAGGGC
GCTAGTGGCCCTTAGTGGCTCTCCCGGAGCTGAAAAATCTAAGTCTCCTGACCCAGACCCTAAGTTGT
CACATGACAGGATTGTCCACATAAATTCGATCCCTACTAATGAGAAAGCAGACCCTTCTGAGGTCCAG
CAAGATAATCCAGATCTCCAGTGGCAGAGATTGAGAGTATCCAGGAAAGTGAAGCAGGAGATGCGGGA
CTGCCCGGGTGAAGTATCCTCGACTGCTCTGACAGGCAGAAGACAGAAGGGTGCAGGCTTCAGGCAG
GAAAGGAGTGTGTGGATTCTCCAGTGGAAAGGAGGGCAGTCAGAAGCACCTCCTTCTGTGTATCCTTTGC
CGTCTCATCAGAAGGCACAGAGCAGGGAGAAGATCCACGCTCGGAAAAAGATCACAGCAGACCTCACAAG
CACCGAGCGCGCATGCACGGCTCAGGAGGAGTAAAAGCCTGTCAGAAAAACAAGTGAAGGAAGCAAAAT
CTAAATGCAAAAGCATTGCCCTTCTTCTAACGGATGCTCCAGCCCCAACTCCAAGGGGGTGTGATGTT
TAAGAAGCGAGCTCGGAGGGCCAGGAAATACACCCTAGTTAGCTACGGTACTGGCGAGCTTGAGCGAGAG
GCGGACGAGGAGGAAGAGGTGACAAGGAGGATACATGTGAAGTAGCATTCTTGGTGCAAGCGAATCAG
AGGTGGATGAAGATTATTGTCTGACGTTGACGACAACACACAAGTTGTGAACTTACTGGGATTCTGG
ACTGGTGGACATTGAAAAGAACTGAACAGAGGGGACAAGATGGAGATGTTACCAGACCCACAGGCAAG
GGAGCCCTCATGTTTGCCAAAGAGGAGGGAGAGAATGGATCAGATCACAGCCAAAAAGAAGAGGACAAGG
TAGGTGGAACGCCAAGCAGAGAACAAGATGCTGCCAGACCGATGGCCTGAGAACCACGACTTCTTACCA



[View online »](#)

AAGAAAGGAGGAAGAGTCGGTAAGAACGACAGAGCTCTGTGAGCAAAAGCTACATCGAGGTGAGTCATGGT
CTTGGCCATGTTCCCAACAGAATGGCTTCAGTGGGGCATCTGAGACAGCAAACATCCAGAGGATGGTCC
CCATGAATAGAACGGCCAAACCCCTCCAGGGTCTGTGAATCAGCCAGCTACCCCTTCTCGCAACCCG
AAACATGACGAGTCCCATTGCTGACTTCTGCACCTCCACCTTACTCTGCAGTCACTCCTCCCTGAC
GCCTTCTCAGAGGGTTTCAAGTCCGATTGCTGGCCAGCACAGCCCTCCATGGCCAGCCTGCC
CGTGGTCCCAGCCAGCCTTTACGATTCTGCTGAGCGAATAGCTTCCCAGATGAGAGGATCTCAGTGCC
AGCAAAAAGAACAGGAATATTGCAGGAGGCCAAAAGGAGAAGCAGGACAAAACCCATGTTTACTTTAAA
GAGCCCAAAGTAAGCCAAATCCTGAACCTTGTCACTCCTTCAAATTCAGAAGGCAAACGGGGCACTG
GAGCTGGAGGTGATTCCGGACCGGAAGAAGACTACCTCAGCTTGGGGCAGAGGCTTGTAAATTCATGCA
AAGCTCCTCTGCCAAAACAAAAGACCCCTCCTCCTGTTGCTCAAAACCTGCAGTCAAGTCTCATCTCC
CAACCAGTAACTCCAGTTTCCCACTGCTGGTCTCCAGGAGTGGCTCCACCCAACCTCCTGCCTTCCCA
CATCAACCCATCAAAGGGCACCCTTGTCTCCTCCATCAAATAGCCAGCCTTCTTACCCTCCTGCCCG
GCCTGCAAGTACTTTGACGTGGCTGGTCCCTCAAAGGACCACAAGCAGCAGTAGCCAGTCAGAATTAC
ACACCCAAACCAAGTTCACACCAACAGTCAATGCTGTTGAGCCTGGTGCAGTGGGACCATCCAATG
AGCTTCCAGGAATGAGTGGGAGAGGAGCTCAGCTCTTTGCTAAAAGGCAGTCGAGAATGGAGAAGTATG
GGTCGATTGAGACACGGTGCAGGCCACGCTGCTCGAGCTCAGTCTCCCACTCCATCTCTCCCGCCAGT
TGGAAGTACTCCTCCAATGTCCGAGCACCTCCTCCTGTGGCCTATAATCCTATCCACTCGCCGTCTTACC
CACTGGCTGCTCTCAAGTCTCAGCCATCAGCTGCACAGCCCTCCAAAATGGGCAAGAAAAGGAAAGAA
ACCCCTCAATGCATTAGATGTATGAAGCACAACCGTATCAGCTCAATGCATCCTTGTACTTTCCAA
CCTCCAGATGCAAAGGATGGCCTCCCCAGAAGTCATCAGTCAAGGTCAATTCAGCCCTGGCCATGAAGC
AAGCTCTCCTCCCGGCCAGTGAATGCTGCCTCACCTACGAATGTGCAGGCTTCGTGAGTACTCGGT
ACCAGCCTATACCTCTCCTCCTTCTTTGAGAGGCCTCCTCACCAGTCAGTGCATCCCCAGTGCCT
GTGGGCATTCACCTCGCCAAAAGCAAGAATCAGCCTCATCATCTTATTTTGTGGCACCAGGCCAAAGT
TCTCAGCCAAGAAAAGTGGTGTCAACAATCAGGAGAGTGGGCGCTCCCTTCTCTTCTGGAAGATCAGT
CCCACCCCAATTTCTACATCTCCTTGGGTATACCAGCCTACTTATAGTACTCTAGTAAACCAACCGAT
GGACTAGAGAAAAGCAAACAAGAGACCAACTCCTTGGGAAGCAGCAGCAAAGTCTCCTCTCGGTCTAGTGG
ATGATGCTTTCAACCCAGAAACATCCAGGAATCCATTGTGACAAATGTGGTTTCAGCAGCTCGGAGGAA
GGTGTCTCCAGGGCCTCCAGAGGATTGGAATGAAAGACTGCTCTATATTCCTCAAACCCAGAAAGGCTAT
ATGGGCTCATGTGAAGGCAAGAGTATAATGTCACAGCCAATAATAATATGTCCACCACCTCCCAATATG
GTTACAGTTGCCATATGCATATTATAGGAGGCTTCAAGAAATGATTCTGCAATCATGTCCATGGAAC
CAGGTCTGATTACTGTCTCCAGTAGCTGATTACAACCAACCCACCCCAAGGGGATGGAGACGCCAA
ACA

ACGGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG215728 representing NM_133477
 Red=Cloning site Green=Tags(s)

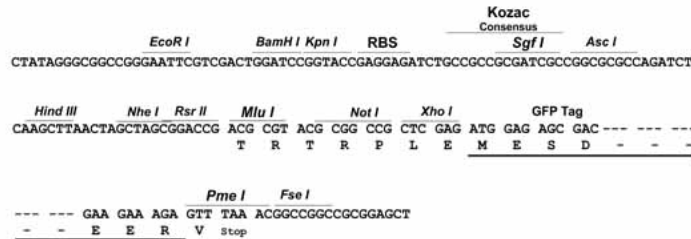
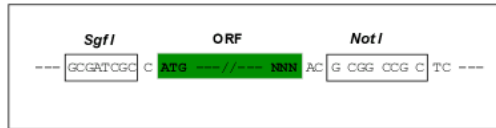
MGTGDFICISMTGGAPWGFRLQGGKEQKQPLQVAKIRNQSKASGSGLCEGDEVVSINGNPCADLTPEVI
 KLMESITDSLQMLIKRPSSGISEALISENENKNLEHLTHGGYVESTTLQIRPATKTQCTEFFLAPVKTEV
 PLAENQRSGPDCAGSLKEETGPSYQRAPQMPDSQRGRVAEELILREKVEAVQPGPVVELQLSLSQERHKG
 ASGPLVALPGAEEKSPDPDPNLSHDRIVHINSIPTNEKADPFLRSSKIIQISSGRELRVIQSEAGDAG
 LPRVEVILDCSDRQKTEGCRQLQAGKECVDSPVEGGQSEAPPSLVSFVAVSSEGTEQGEDPRSEKDHSRPHK
 HRARHARLRRSESLSEKQVKEAKSKCKSIALLLTDAPSPNSKGVLMFKKRRRRRARKYTLVSYGTGELERE
 ADEEEEGDKEDTCEVAFLGASESEVDEELLSDVDDNTQVVNFDWDSGLVDIEKKNRQDKMEMPLDPTTGK
 GALMFAKRERMDQITAQKEEDKVGTPSREQDAAQTDGLRTTTTYQRKEEESVRTQSSVSKSYIEVSHG
 LGHVPQQNGFSGASETANIQRMVPMNRTAKPFPGSVNQPATPFPSPTRNMTSPIADFPAPPYSAVTPPPD
 AFSRGVSSPIAGPAQPPWPQPAPWSQPAFYDSSERIASRDERISVPAKRTGILQEAKRRSTTKPMFTFK
 EPKVSPNPELLSLLQNSEGKRGTGAGGDSGPEEDYLSLGAECNFMQSSSAKQKTPPPVAPKPAVKSSSS
 QPVTPVSPVWSPGVAPTQPPAFPTSNPSKGTVVSSIKIAQPSYPPARPASTLNVAGPFKGPQAASQNY
 TPKPTVSTPTVNAVQPGA VGPSNELPGMSGRGAQLFAKRQSRMEKYVVDSDTVQAAHARAQSPTPSLPAS
 WKYSSNVRAPPPVAYNP.IHSPSYPLAALKSQPSAAQPSKMGGKKGKPLNALDVMKHQPYQLNASLFTFQ
 PPDADKGLPQKSSVKVNSALAMKQALPPRPVNAASPTNVQASSVYSVPAYTSPPSFFAEASSPVSASPVP
 VG IPTSPKQESASSSYFVAPRPKFSAKSGVTIQESGRSLSLPGRSVPPP ISTSPWVYQPTYSYSSKPTD
 GLEKANKRPTWEAAAKSPLGLVDDAFQPRNIQESIVTNVVAARRKVLPGPPEDWNERLSYIPQTQKAY
 MGSCGRQEYNVTANNMSTTSQYGSQLPYAYYRQASRNDSAIMSMETRSDYCLPVADYNNPHPRGWRQ
 T

TRPLE - GFP Tag - V

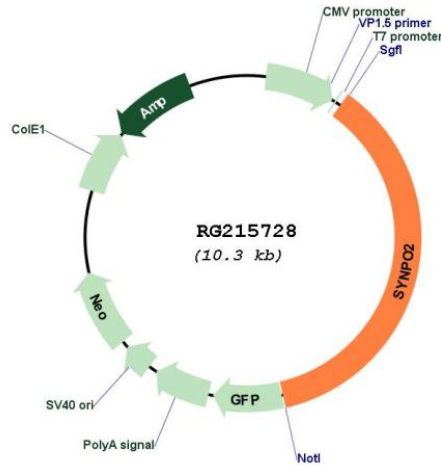
Restriction Sites: SgfI-NotI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_133477

ORF Size: 3783 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_133477.1](#), [NP_597734.1](#)

RefSeq Size: 7318 bp

RefSeq ORF: 3786 bp

Locus ID: 171024

UniProt ID: [Q9UMS6](#)

Cytogenetics: 4q26

Gene Summary:

Has an actin-binding and actin-bundling activity. Can induce the formation of F-actin networks in an isoform-specific manner (PubMed:24005909, PubMed:23225103). At the sarcomeric Z lines is proposed to act as adapter protein that links nascent myofibers to the sarcolemma via ZYX and may play a role in early assembly and stabilization of the Z lines. Involved in autophagosome formation. May play a role in chaperone-assisted selective autophagy (CASA) involved in Z lines maintenance in striated muscle under mechanical tension; may link the client-processing CASA chaperone machinery to a membrane-tethering and fusion complex providing autophagosome membranes (By similarity). Involved in regulation of cell migration (PubMed:22915763, PubMed:25883213). May be a tumor suppressor (PubMed:16885336). [UniProtKB/Swiss-Prot Function]