

## Product datasheet for **RG219442**

### **FGD4 (NM\_139241) Human Tagged ORF Clone**

#### **Product data:**

|                           |                                         |
|---------------------------|-----------------------------------------|
| Product Type:             | Expression Plasmids                     |
| Product Name:             | FGD4 (NM_139241) Human Tagged ORF Clone |
| Tag:                      | TurboGFP                                |
| Symbol:                   | FGD4                                    |
| Synonyms:                 | CMT4H; FRABP; ZFYVE6                    |
| Mammalian Cell Selection: | Neomycin                                |
| Vector:                   | pCMV6-AC-GFP (PS100010)                 |
| E. coli Selection:        | Ampicillin (100 ug/mL)                  |



[View online »](#)

**ORF Nucleotide  
Sequence:**

>RG219442 representing NM\_139241  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGC**

ATGGAGGAAATTAACCTGCCTCTGCTTCTGTGTCTCAAAGAAAAACCCAGTAAGGTATCAGATCTCA  
 TCAGTCGCTTTGAAGGAGGCAGCTCATTATCAAATTATAGTGATTGAAGAAAGAGTCTGCTGTGAACCT  
 AAATGCTCCTAGAACCCAGGAAGGCATGGATTGACAACACACCTCAACAAAACTCCTCTCCAGCAC  
 TTGCCACAGAGGCAGGAAATGATGCAGATAAGACTCAGGGTGCACAGACTTGTGTGGCCAACGGTGTA  
 TGGCAGCACAAAACAGATGGAATGTGAGGAGGAGAAAGCTGCCACTCTAGCTCAGATACTTCTATTCA  
 AGCTTCTGAACCTTGTGATACGCACATAGTGAATGGAGAAAGAGATGAACTGCCACAGCTCCTGCA  
 TCACCCACAACAGATAGCTGTGATGGAATGCTTCTGACAGTAGCTACAGGACTCCAGGCATAGGCCAG  
 TGCTCCCCCTAGAAGAAAGAGGGGCAGAAACAGAAACCAAGGTACAAGAGAGGAAAAATGGGAAAGCCC  
 TCTGGAAGTGGAGCAGCTGGACCAGCACCATGAGATGAAGGAGACTAATGAGCAAACTTCACAAAATA  
 GCCAATGAACTTTGTCTACTGAAAGAGCTTATGTCAACCGACTTGACCTCTTAGATCAGGTATTTTATT  
 GCAAAGTGTGGAAGAAGCAAAACCGAGGCTCGTTTCCAGCAGAGATGGTGAATAAAATCTTTTCCAATAT  
 TTCATCAATAAATGCCTTCCATAGTAAATTCCTTGGCAGAGCTGGAGAAACGAATGCAAGAATGGGAA  
 ACTACTCCTAGAAATGGAGACATCCTTCAGAAATTGGCACCATTCTTAAGATGTATGGAGAATATGTGA  
 AAGGATTTGATAATGCAATGGAATTGGTTAAAAACATGACAGAACGTATCCCCAGTTCAAATCAGTGGT  
 TGAAGAAATTCAGAAACAGAAAACTGTGGGAGCTTAACCTTGCAGCATCACATGCTAGAACCTGTTTCA  
 CGGATTTCCCGGTATGAGATGCTCCTTAAGGACTATCTAAGGAAATTCCTCCTGATTCCCTGGACTGGA  
 ATGATGCTAAAAAATCACTTGAAATTATCTACAGCAGCAAGCCATTCTAATAGTGAATAAGGAAAAAT  
 GGAGAACCCTAAAGAACTCTTAGAGATTTATGAAATGTTGGGAGAAGAAGAAGACATTGTAAACCTTCA  
 AATGAACCTAATAAAAGAAGGACAGATCCTCAAAGTACTGCTCGGAACACTTCAGCACAAGAACGCTACC  
 TTTTCTTATTCAACAACATGTTGCTGTACTGTGTGCCAAATTCAGCTTGGTAGGCTCTAAATTCACAGT  
 TCGAACCAGGGTTGGCATTGATGGAATGAAATTTAGAGACTCAAAATGAAGAAATCCACATACTTTC  
 CAGGTGTCTGGGAAAGAGAGAACTGGAAGTGCAGGCCAGTTCTGCGCAAGACAAGAAGAAATGGATCA  
 AGGCCCTTCAAGAAACCATCGATGCTTTTCATCAAAGGCATGAAACCTTCAGAAATGCAATTGCAAAGGA  
 TAATGACATTCAGTCAAGGTTTCTACTGCTGAGCTAGGGAAGAGCCCAAGATGGATCCGAGATAAT  
 GAAGTGACAATGTGTATGAAATGTAAGAACCTTTCAATGCACTGACACGAAGGAGGCATCATTGTCGAG  
 CATGTGGATATGTGGTTTGTGGAAATGCTCCGACTACAAAGCTCAACTTGAATATGATGGTGGTAAAT  
 GAGCAAAGTTTGTAAAGACTGTTATCAAATCATAGTGGATTACAGACAGTGAAGAAAAGAAAAGAAAA  
 GGAATTTTAGAGATTGAATCAGCAGAAGTATCTGGAAACAGTGTGGTGTGCAGCTTTCTTCAGTATATGG  
 AGAAGTCAAAACCTTGGCAGAAAGCTTGGTGTGTGATCCCCAAGCAAGACCTCTTGTGCTGTACATGTA  
 TGGTGCCCCCAGGACGTCAGAGCCAGGCCACCATTCACCTTCTGGGCTATGTGGTGGATGAAATGCCA  
 AGGAGCGCAGACCTGCCACACAGTTTCAAAGTACCCAGTCTAAGTCCGTGCACAGCTTTGCTGCAGACA  
 GTGAGGAACTGAAGCAGAAGTGGCTGAAAGTCATCCTTTAGCTGTACAGGTGAGACACCAAGGTGGTCC  
 AAATGAGCATCCAGCCACCTTGGATGATCATCCTGAACCTAAGAAAAAATCAGAAATGC

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >RG219442 representing NM\_139241  
 Red=Cloning site Green=Tags(s)

MEEIKPASASCVSKEKPSKVSDDLISRFEFGSSLSNYSDLKKESAVNLNAPRTGRHGLTTTPQQKLLSQH  
 LPQRQGNADKTQGAQTCVANGVMAAQNQMECEEEKAATLSSDTSIQASEPLLDTHVNGERDETATAPA  
 SPTTDSCDGNASDSSYRTPGIGPVLPLEERGAETETKVQERENGESPLELEQLDQHHEMKETNEQKLHKI  
 ANELLLTERAYVNRLDLLDQVFYCKLLEEANRGSFPAEMVNKIFSNISSINAFHSKFLLEPEKRMQWE  
 TTPRIGDILQKLAPFLKMYGEYVKGFDNAMELVKNMTERIPQFKSVVEEIQKQKICGSLTLQHHMLEPVQ  
 RIPRYEMLLKDYLRKLPPDSLWDNDAKKSLEIIISTAASHNSAIRKMENLKKLLEIYEMLGEEEDIVNPS  
 NELIKEGQILKLAARNTSAQERYLFLFNMLLYCVPKFSLVGSKFTVRTRVGDGMKIVETQNEEYPHTF  
 QVSGKERTLELQASSAQDKEEWIKALQETIDAFHQRHETFRNAIAKDNDIHSEVSTAELGKRAPRWIRDN  
 EVTMCMKCKEPFNALTRRRHHCACGYVVCWKCSKYAQLEYDGGKL SKVCKDCYQIISGFTDSEKKRK  
 GILEIESAEVSGNSVCSFLQYMEKSKPWQKAWCVIPKQDPLVLYMYGAPQDVRAQATIPLLGYVDDEMP  
 RSADLPHSFKLTQSKSVHSFAADSEELKQKWLKVILLAVTGETPGGPNEHPATLDDHPEPKKKSEC

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_139241

**ORF Size:** 2298 bp

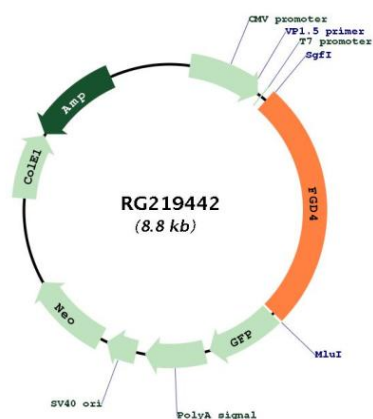
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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).

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Note:</b>                  | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>RefSeq:</b>                | <u>NM_139241.1, NP_640334.1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>RefSeq Size:</b>           | 2931 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>RefSeq ORF:</b>            | 2301 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Locus ID:</b>              | 121512                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>UniProt ID:</b>            | <u>Q96M96</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Cytogenetics:</b>          | 12p11.21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Domains:</b>               | RhoGEF, FYVE, PH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Gene Summary:</b>          | <p>This gene encodes a protein that is involved in the regulation of the actin cytoskeleton and cell shape. This protein contains an actin filament-binding domain, which together with its Dbl homology domain and one of its pleckstrin homology domains, can form microspikes. This protein can activate MAPK8 independently of the actin filament-binding domain, and it is also involved in the activation of CDC42 via the exchange of bound GDP for free GTP. The activation of CDC42 also enables this protein to play a role in mediating the cellular invasion of <i>Cryptosporidium parvum</i>, an intracellular parasite that infects the gastrointestinal tract. Mutations in this gene can cause Charcot-Marie-Tooth disease type 4H (CMT4H), a disorder of the peripheral nervous system. Multiple alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jan 2015]</p> |

## Product images:



Circular map for RG219442