

## Product datasheet for **RG226627**

### **FZR1 (NM\_001136198) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	FZR1 (NM_001136198) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	FZR1
Synonyms:	CDC20C; CDH1; FZR; FZR2; HCDH; HCDH1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG226627 representing NM\_001136198  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGACCAGGACTATGAGCGGCCTGCTTCGCCAGATCGTCATCCAGAATGAGAACACGATGCCACGCG  
 TCACAGAGATGCGCGGACCCTGACGCCTGCCAGCTCCCCAGTGTCTCGCCAGCAAGCACGGAGACCG  
 TTCATCCCCTCCAGAGCCGGAGCCAATGGAGCGTGAACCTCCACAGGATTAACGAGAATGAGAAGTCT  
 CCCAGTCAGAACCAGCAAGGACGCCACCTCAGACAACGGCAAAGACGGCCTGGCCTACTCTGCC  
 TGCTCAAGAAATGAGTGTGGTGGCGCATCGAGAAGTGCAGGACCCGACAGCTGAGGACCGCAGGCT  
 GCAGCCCTCCACGCTGAGAAGAAGGTCTGTTACGTATTCCCTTAGCACCAAGCGCTCCAGCCCCGAT  
 GACGGCAACGATGTGTCTCCCTACTCCCTGTCTCCCGTCAGCAACAAGAGCCAGAAGCTGCTCCGGTCCC  
 CCCGAAACCCACCCGAAGATCTCAAGATCCCCTTCAAGGTGTGGACGCGCCGAGCTGCAGGACGA  
 CTTCTACCTCAATCTGGTGGACTGGTCTCCCTCAATGTGCTCAGCGTGGGGCTAGGCACCTGCGTGTAC  
 CTGTGGAGTGCCTGTACAGCCAGGTGACGCGGCTCTGTGACCTCTCAGTGGAAAGGGGACTCAGTGACCT  
 CCGTGGGCTGGTCTGAGCGGGGAACTGGTGGCGGTGGGCACACACAAGGGCTTCGTGCAGATCTGGGA  
 CGCAGCCGAGGGAAGAAGCTGTCCATGTTGGAGGGCCACACGGCACGCGTCCGGGGCGTGGCCTGGAAT  
 GCTGAGCAGTGTCTCCGGGAGCCGCGACCGCATGATCTGCAGAGGGACATCCGCACCCCGCCACTGC  
 AGTCGGAGCGGCGGTGCAGGGCCACCGCAGGAGGTGTGCGGGCTCAAGTGGTCCACAGACCACCAGCT  
 CCTCGCCTCGGGGGCAACGACAACAAGCTGTGGTCTGGAATCACTCGAGCCTGAGCCCGTGCAGCAG  
 TACACGGAGCACCTGGCGCCGTGAAGGCCATCGCCTGGTCCCCACATCAGCACGGGCTGCTGGCCTCGG  
 GGGCGGCACAGCTGACCGCTGTATCCGCTTCTGGAACACGCTGACAGGACAACCACTGATGTATCGA  
 CACGGGCTCCCAAGTGTGCAATCTGGCCTGGTCCAAGCACGCCAACGAGCTGGTGAGCACGACCGCTAC  
 TCACAGAACCAGATCCTTGTCTGGAAGTACCCCTCCCTGACCCAGGTGGCCAAGCTGACCGGGCACTCCT  
 ACCGCGTGTGTACCTGGCAATGTCCCCTGATGGGGAGGCCATCGTCACTGGTGTGGAGACGAGACCCT  
 GAGGTTCTGGAACGTCTTAGCAAAAACCGTTCGACAAAAGGTAAGTGGGAGTCTGTGTCTGTGCTCAAC  
 CTCTTACCAGGATCCGG

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTAA

**Protein Sequence:**

>RG226627 representing NM\_001136198  
 Red=Cloning site Green=Tags(s)

MDQDYERRLLRQIVIQNENTMPRVTEMRRRLTPASSPVSSPSKHGDRFIPSRAGANWSVNFHFRINENEKS  
 PSQNRKAKDATSDNGKGLAYSALLKNELLGAGIEKVQDPQTEDRRLQPSTPEKKGLFTYSLSTKRSSPD  
 DGNVSPYSLSPVSNKSQKLLRSPRKPTRKISKIPFKVLDAPELQDDFYLNLDVWSSLNVL SVGLGTCVY  
 LWSACTSQVTRLCDL SVEGDSVTSVGSERGNLVAVGTHKGFVQIWDAAAGKKLSMLEGHTARVGALAWN  
 AEQLSSGSRDRMILQRDIRTPPLQSERRLQGHRQEVCGLKWSTDHQLLASGGNDNKLLVWNHSSLSPVQQ  
 YTEHLAAVKAIAWSPHQHLLASGGGTADRCIRFWNTLTGQPLQCIDTGSQVCNLAWSKHANELVSTHGY  
 SQNQILVWKYPSLTQVAKLTGHSYRVLYLAMPDGEAIVTGAGDETLRFWNVFSKTRSTKVKWESVSVLN  
 LFTRIR

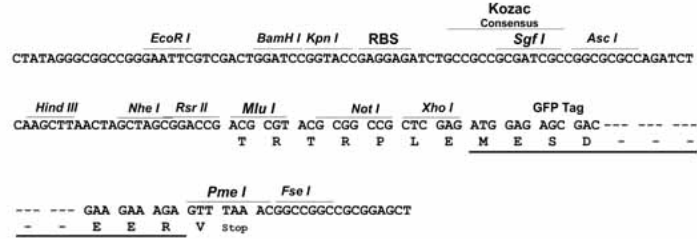
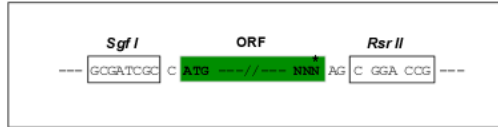
SGP**TRRRLE** – GFP Tag – V

**Restriction Sites:**

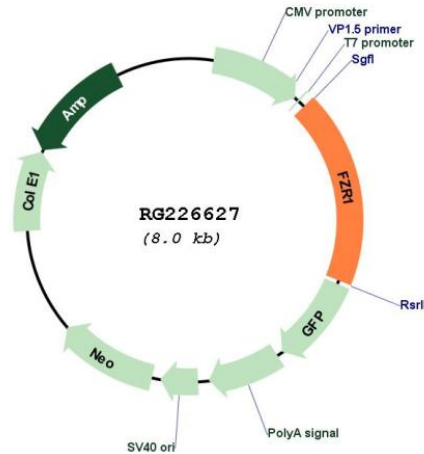
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



## Plasmid Map:



ACCN:	NM_001136198
ORF Size:	1488 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. <a href="#">More info</a>
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>RefSeq:</b>	<a href="#">NM_001136198.1</a> , <a href="#">NP_001129670.1</a>
<b>RefSeq Size:</b>	3446 bp
<b>RefSeq ORF:</b>	1491 bp
<b>Locus ID:</b>	51343
<b>UniProt ID:</b>	<a href="#">Q9UM11</a>
<b>Cytogenetics:</b>	19p13.3
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Cell cycle, Progesterone-mediated oocyte maturation, Ubiquitin mediated proteolysis
<b>Gene Summary:</b>	<p>Substrate-specific adapter for the anaphase promoting complex/cyclosome (APC/C) E3 ubiquitin-protein ligase complex. Associates with the APC/C in late mitosis, in replacement of CDC20, and activates the APC/C during anaphase and telophase. The APC/C remains active in degrading substrates to ensure that positive regulators of the cell cycle do not accumulate prematurely. At the G1/S transition FZR1 is phosphorylated, leading to its dissociation from the APC/C. Following DNA damage, it is required for the G2 DNA damage checkpoint: its dephosphorylation and reassociation with the APC/C leads to the ubiquitination of PLK1, preventing entry into mitosis. Acts as an adapter for APC/C to target the DNA-end resection factor RBBP8/CtIP for ubiquitination and subsequent proteasomal degradation. Through the regulation of RBBP8/CtIP protein turnover, may play a role in DNA damage response, favoring DNA double-strand repair through error-prone non-homologous end joining (NHEJ) over error-free, RBBP8-mediated homologous recombination (HR) (PubMed:25349192). [UniProtKB/Swiss-Prot Function]</p>