

## Product datasheet for **RG223950**

### Heparan Sulfate Proteoglycan 2 (HSPG2) (NM\_005529) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Heparan Sulfate Proteoglycan 2 (HSPG2) (NM_005529) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Heparan Sulfate Proteoglycan 2
Synonyms:	HSPG; PLC; PRCAN; SJA; SJS; SJS1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG223950 representing NM_005529 Red=Cloning site Blue=ORF Green=Tags(s)

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ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:**

>RG223950 representing NM\_005529  
 Red=Cloning site Green=Tags(s)

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 ITWYKRGGS LPSRHQTHGSHLRLHQMSVADSGEYVCRANNIDALEASIVISVSPSAGSPAGSSMPIR  
 IESSSSHVAEGETLDLNCVVPQQAHAQVTWHKRGGS LPSHHQTRGSRLRLHHVSPADSGEYVCRVMGSSG  
 PLEASVLVTIEASGSSAVHVPAPGGAPP IRIEPS SRVAEGQTLDLKCVVPGQAHAQVTWHKRGGNL PAR  
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 LRWFKEGGQLPPGHSVQDGLRIQNL DQSCQGT YICQAHGPWGKAQASAQLVIQALPSVLINIRTSVQTV  
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 CTATNRQKVKAF AHLQVPERVVPYFTQTPYSFLPLPTIKDAYRKF EIKITFRPDSADGMLLYNGQKRV P  
 GSPTNL ANRQPDFISFGLVGG RPEFRFDAGSGMATIRHPTPLALGHFHTVTLRLSLTQGS L IVGDLAPVN  
 GTSQGFQGLDLNEEL YLGGYPDYGAIPKAGLSSGFIGCVRELRIQGEI VFDLNLTAHGISHCPTCRD  
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 CEEGVTVTTPSLSGAGSYLALPALTNTHHELRLDVEFKPLAPDGVLLFSGGKSGPVEDFVSLAMVGGHLE  
 FRYELGSLAVLRS AEPLALGRWHRVSAERLNKDGSLRVNGRPPVLRSSPGKSQLNLHTLLYLGGVPEPS  
 VPLSPATNM SAHFRGCVGEVSVNGKRLDLTYSFLGSQGIQC YDSSPCERQPCQHAGATCMPAGEYEFQCL  
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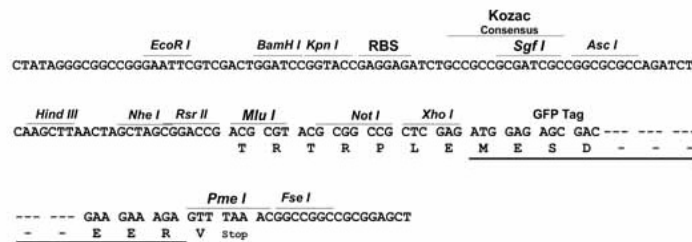
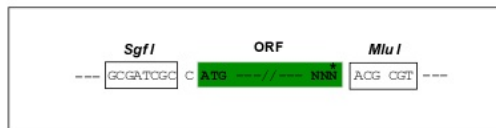
TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



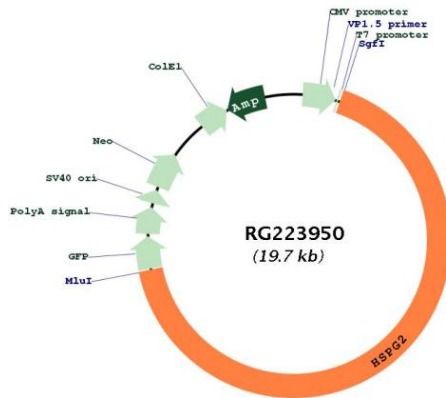
ACCN:

NM\_005529

<b>ORF Size:</b>	13173 bp
<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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_005529.3</a> , <a href="#">NP_005520.3</a>
<b>RefSeq Size:</b>	14294 bp
<b>RefSeq ORF:</b>	13176 bp
<b>Locus ID:</b>	3339
<b>UniProt ID:</b>	<a href="#">P98160</a>
<b>Cytogenetics:</b>	1p36.12
<b>Domains:</b>	LamB, SEA, LamG, EGF_Lam, ldl_recept_a, ig, IGv, IGc2, IG, EGF, EGF
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	ECM-receptor interaction

**Gene Summary:**

This gene encodes the perlecan protein, which consists of a core protein to which three long chains of glycosaminoglycans (heparan sulfate or chondroitin sulfate) are attached. The perlecan protein is a large multidomain proteoglycan that binds to and cross-links many extracellular matrix components and cell-surface molecules. It has been shown that this protein interacts with laminin, prolargin, collagen type IV, FGF2, FBLN2, FGF7 and transthyretin, etc., and it plays essential roles in multiple biological activities. Perlecan is a key component of the vascular extracellular matrix, where it helps to maintain the endothelial barrier function. It is a potent inhibitor of smooth muscle cell proliferation and is thus thought to help maintain vascular homeostasis. It can also promote growth factor (e.g., FGF2) activity and thus stimulate endothelial growth and re-generation. It is a major component of basement membranes, where it is involved in the stabilization of other molecules as well as being involved with glomerular permeability to macromolecules and cell adhesion. Mutations in this gene cause Schwartz-Jampel syndrome type 1, Silverman-Handmaker type of dyssegmental dysplasia, and tardive dyskinesia. Alternative splicing of this gene results in multiple transcript variants. [provided by RefSeq, May 2014]

**Product images:**


Circular map for RG223950