

Product datasheet for **RG223626**

Sperm Flagellar 2 (SPEF2) (NM_144722) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	TurboGFP
Symbol:	Sperm Flagellar 2
Synonyms:	CT122; KPL2; SPGF43
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



ORF Nucleotide Sequence: >RG223626 representing NM_144722
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCGCGATCGCC

ATGTCGGAGATCCTGTGCCAGTGGCTCAACAAGGAGTTGAAGGTGTCCCGACCGTGAGTCCCAAGTCAT
 TTGCAAAGGCATTTTCCAGTGGCTATCTACTTGGAGAAGTTCTACACAAGTTTGAAGTTTCTAGGATGATTT
 TTCAGAAATTTTGGACAGCAGGGTTTCAAGTGCCAACTTAATAATTTTCTCGCTTGGAGCCAACACTT
 AACCTTCTGGGTGTGCAGTTTATCAGAATGTGGCCCATGGCATCATCAGAAAAAGCCTGGGTGGCAA
 CAAAGCTGTTATATCAATTGTACATTGCTCTTCAGAAAAAGAAAAAGTGGACTGACTGGAGTGGAGAT
 GCAAAACCATTGCAACGTCTGACAAATTTAAGACTTCAAAACATGAAAAGTGATACTTTTCAAGAGAGACTT
 AGACACATGATACCACGTCAAAGTATTTCAATCTGATGCGGATTACATACAGGTTTCAAGAAAAATATA
 AACACGTGAAAGAAGATCTTGCCCATTTGCATTTTGAAGAACTTGAAGATTTCAAAACTCAAGGAAGA
 GCAAAGATGTTTTGATATTGAAAGCAATACTTAAACAGAAGACGACAAAATGAAATATGGCCAAAATC
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 TGATGAAAAAGAAAAAGAGGCAGAAAGATGTGGCTGATGAAATTAAGAAGTTTCAAGCATTAATAAAAAA
 GGATCTCCAAGCAAAAGAAAGTGCATCCAAGACTTCTTTAGATACAGCAGGCCAGACAACCCAGGATTTG
 TAAATACTTACTCAGATGACGAGTACATTAATAAAATCCAGAAGCGCCTTGAAGAAGATGCTTTTGCAC
 GAGAGCAAAAGGGAGAAAAAGACGCGGAAATTTGTTAATGGACAGTTAATAGCCACGAGCACAAGAGGA
 GGCTTATCGGGAGGAACAGCTGATTAACCGGCTGATGCGGCAGTCCAGCAGGAGCGCAGGATTGCCGTG
 CAGCTCATGCATGTTCCGCATGAAAGGAAGTTTATGGCAAAACAGAAATTTTCAAGAAAAACAACATG
 AGGAAAGACGACTTAAAGATTTCCAGGATGCTCTTGATCGAGAAGCGGCTTTGGCAAAACAAGCCAAGAT
 TGACTTTGAAGAACAAATTCCTTAAAGAAAAAGAGATTTTATGATCAGATTGCTGTGGAAGAGCTCAAGCT
 CGTTATGAAAGCATTATTAGTATGTGCAGAAATTTTGGATCAAAATAGTTGATTTGTCCACTAAAGTGG
 CAGACTATCGAATGTTGACAAATATCTGATTCCGTATAAGTTGATGCATGATTGGAAGGAAGTATTTT
 TAATGCAAAACCCATATATGAACAAGCCTCTGTTAAGACACTACCTGCTAACCCTCAAGAGAACAATTT
 ACAGAACTGGAGAAAAGGACTTGCTAGATACCAATGATTATGAAGAATATAAGGTACCTACTGATATGA
 AA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG223626 representing NM_144722
 Red=Cloning site Green=Tags(s)

MSEILCQWLNKELKVSRTVSPKSFSAKAFSSGYLLGEVLHKFELQDDFSEFLDSRVSSAKLNNFSRLEPTL
 NLLGVQFDQNVAHGIITEKPGVATKLLYQLYIALQKKKSGLTGVEMQTMQRLTNLRLQNMKSDTFQERL
 RHMIPRQTDNFMRLITYRFQEKYKHVKEDLAHLHFELERFQKLKEEQRCFDIEKQYLNRRRQNEIMAKI
 QAAIIQIPKASNRTLKALEAQKMMKKKKEAEDVADEIKKFEALIKKDLQAKESASKTSLDTAGQTTTDL
 LNTYSDDEYIKKIQRLEEDAFAREQREKRRRLKMDQLIAHEAQEEAYREEQLINRLMRQSQQERRIAV
 QLMHVRHEKEVLWQNRIFREKQHEERRLKDFQDALDREAALAKQAKIDFEEQFLKEKRFHDQIAVERAQA
 RYEKHYSVCAEILDQIVDLSTKVADYRMLTNNLIPYKLMHDWKELFFNAKPIYEQASVKTLPANSPREQL
 TELEKRDLLDTNDYEEYKVPDMDK

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_144722

ORF Size: 1542 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

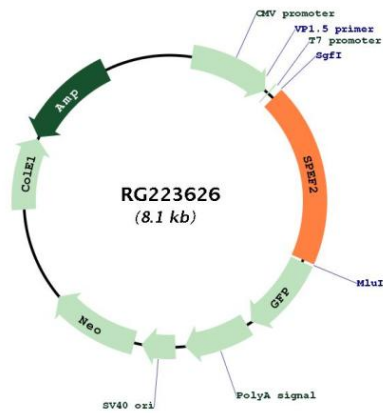
RefSeq: [NM_144722.4](#)

RefSeq Size: 3000 bp

RefSeq ORF: 1545 bp
Locus ID: 79925
UniProt ID: [Q9C093](#)
Cytogenetics: 5p13.2

Gene Summary: Required for correct axoneme development in spermatozoa. Important for normal development of the manchette and sperm head morphology. Essential for male fertility. Plays a role in localization of the intraflagellar transport protein IFT20 to the manchette, suggesting function as an adapter for dynein-mediated protein transport during spermatogenesis. Also plays a role in bone growth where it seems to be required for normal osteoblast differentiation. [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RG223626