

## Product datasheet for **RG230203**

### Hyaluronidase PH20 (SPAM1) (NM\_001174045) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Hyaluronidase PH20 (SPAM1) (NM_001174045) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	SPAM1
Synonyms:	HEL-S-96n; HYA1; HYAL1; HYAL3; HYAL5; PH-20; PH20; SPAG15
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RG230203 representing NM\_001174045  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGAGTGCTAAAATCAAGCACATCTTTTTCAGAAGCTTTGTTAAATCAAGTGGAGTATCCAGATAG  
 TTTTCACCTTCTCTGATTCCATGTTGCTTGACTCTGAATTTACAGACACCTCCTGTTATTCCAATGT  
 GCCTTCTCTGCGCCTGGAATGCCCAAGTGAATTTGTCTTGAAAAATTTGATGAGCCACTAGATATG  
 AGCCTCTTCTTTTCATAGGAAGCCCCGAATAAACGCCACCGGCAAGGTGTTACAATATTTTATGTTG  
 ATAGACTTGGCTACTATCCTTACATAGATTCAATCACAGGAGTAACTGTGAATGGAGGAATCCCCAGAA  
 GATTTCTTACAAGACCCTGGACAAAGCTAAGAAAGACATTACATTTTATATGCCAGTAGACAATTTG  
 GGAATGGCTGTTATTGACTGGGAAGAATGGAGACCCACTTGGGCAAGAACTGAAACCTAAAGATGTTT  
 ACAAGAATAGGTCTATTGAATTGGTTCAGCAACAAAATGTACAACCTAGTCTCACAGAGGCCACTGAGAA  
 AGCAAAAACAAGAAATTTGAAAAGGCAGGGAAGGATTTCTGGTAGAGACTATAAAATTTGGGAAAATTA  
 CGGCCAAATCACTTGTGGGGTATTATCTTTTTCCGGATTGTTACAACCATCACTATAAGAAACCCGGTT  
 ACAATGGAAGTTGCTTCAATGTAGAAATAAAAAGAAATGATGATCTCAGCTGGTTGTGGAATGAAAGCAC  
 TGCTCTTTACCCATCCATTTATTTGAACACTCAGCAGTCTCCTGTAGCTGCTACACTCTATGTGCGCAAT  
 CGAGTTCGGGAAGCCATCAGAGTTTCCAAAATACCTGATGCAAAAAGTCCACTTCCGGTTTTTGCATATA  
 CCCGCATAGTTTTTACTGATCAAGTTTTGAAATTCCTTTCTCAAGATGAACCTGTGTATACATTTGGCGA  
 AACTGTTGCTCTGGGTGCTTCTGGAATTGTAATATGGGGAACCCCTCAGTATAATGCGAAGTATGAAATCT  
 TGCTTGTCTAGACAATTACATGGAGACTATACTGAATCCTTACATAATCAACGTCACACTAGCAGCCA  
 AAATGTGTAGCCAAGTGCTTTGCCAGGCAAGGAGTGTGTATAAGGAAAACTGGAATTCAGATGATG  
 TCTTCACTCAACCCAGATAATTTTGTATTCACTTGAGAAAGGTGAAAGTTACAGTACGTGGAAAA  
 CCGACACTTGAAGACCTGGAGCAATTTTCTGAAAAATTTTATTGACGCTGTTATAGCACCTTGAGTTGTA  
 AGGAGAAAAGCTGATGTAAGACACTGATGCTGTTGATGTGTATTGCTGATGGTGTCTGTATAGATGC  
 TTTTCTAAAACCTCCCATGGAGACAGAAGAACCTCAAATTTTCTACAATGCTTACCCTCCACACTATCT  
 GCCCAATGTTTATTGTTAGTATTTGTTTCTTATCATTTCTTCTGTAGCGAGTTTG

**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA**

**Protein Sequence:**

>RG230203 representing NM\_001174045  
 Red=Cloning site Green=Tags(s)

MGVLKFKHIFFRSFVKSSGVSQIVFTFLLIPCCLTNFRAPPVIPNVPFLWAWNAPSEFCLGKGFDEPLDM  
 SLFSFIGSPRINATGQGVTFYVDRLGYYPYIDSITGVTVNGGIPQKISLQDHLDAKAKDITFYMPVDNL  
 GMAVIDWEEWRPTWARNWPKDVYKNRSIELVQQQNVQLSLTEATEKAKQEFKAGKDFLVETIKLGKLL  
 RPNHLWGYYLFPDCYNHYYKPGYNGSCFNVEIKRNDLWLNWSTALYPSIYLNTQQSPVAATLYVRN  
 RVREAIRVSKIPDAKSPLPVFAYTRIVFTDQVLKFLSQDELVYTFGETVALGASGIVIWGTLSIMRSMKS  
 CLLLDNYMETILNPYIINVTLAAKMCSQVLCQEQGVCIRKNWSSDYHLNPDNFAIQLEKGGKFTVRGK  
 PTLEDLEQFSEKFCSCYSTLSCKEKADVKTDAVDVCIADGVCIDAFLKPPMETEEPQIFYNASPSTLS  
 ATMFIVSILFLIISVASL

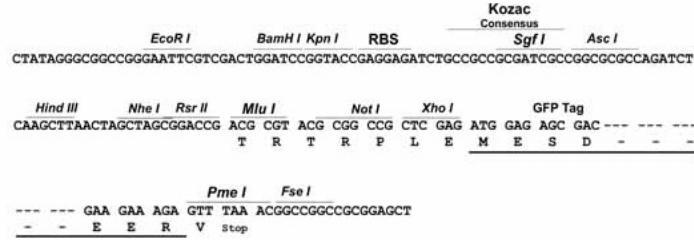
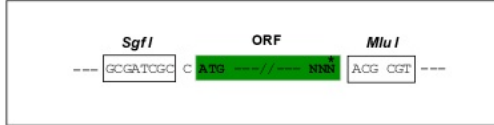
**TRTRPLE - GFP Tag - V**

**Restriction Sites:**

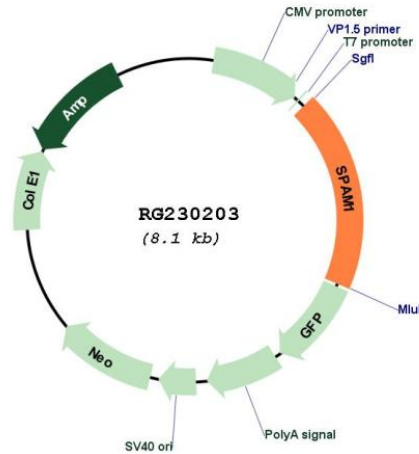
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM\_001174045

ORF Size: 1527 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\\_001174045.1](#), [NP\\_001167516.1](#)

**RefSeq Size:** 2236 bp

**RefSeq ORF:** 1530 bp

**Locus ID:** 6677

**UniProt ID:** [P38567](#)

**Cytogenetics:** 7q31.32

**Protein Families:** Druggable Genome, Transmembrane

**Protein Pathways:** Glycosaminoglycan degradation, Metabolic pathways

**Gene Summary:** Hyaluronidase degrades hyaluronic acid, a major structural proteoglycan found in extracellular matrices and basement membranes. Six members of the hyaluronidase family are clustered into two tightly linked groups on chromosome 3p21.3 and 7q31.3. This gene was previously referred to as HYAL1 and HYA1 and has since been assigned the official symbol SPAM1; another family member on chromosome 3p21.3 has been assigned HYAL1. This gene encodes a GPI-anchored enzyme located on the human sperm surface and inner acrosomal membrane. This multifunctional protein is a hyaluronidase that enables sperm to penetrate through the hyaluronic acid-rich cumulus cell layer surrounding the oocyte, a receptor that plays a role in hyaluronic acid induced cell signaling, and a receptor that is involved in sperm-zona pellucida adhesion. Abnormal expression of this gene in tumors has implicated this protein in degradation of basement membranes leading to tumor invasion and metastasis. Multiple transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Mar 2010]