

## Product datasheet for **RC238962**

### Hyaluronan synthase 1 (HAS1) (NM\_001297436) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Hyaluronan synthase 1 (HAS1) (NM_001297436) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	HAS1
Synonyms:	HAS
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>RC238962 representing NM\_001297436  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGAGACAGGACGCGCCCAAGCCACTCCTGCAGCCTGCCGCTGCTCCGGCTGGCCCGAGGGTGTGA  
 CCATCGCCTTCGCCCTGCTCATCCTGGGCCTCATGACCTGGGCCTACGCCGCCGGGTGCCGCTGGCCTC  
 CGATCGCTACGGCCTCCTGGCCTTCGGCCTCTACGGGGCCTTCTTTTCAGCGCACCTGGTGGCGAGAGC  
 CTCTTCGCGTACCTGGAGCACCGGCGGGTGGCGGCGGCGCGGGGGCCGCTGGATGCAGCCACCGCGC  
 GCAGTGTGGCGTGACCATCTCCGCTACCAGGAGGACCCCGGTACCTGCGCCAGTGCCTGGCGTCCGC  
 CCGCGCCTGCTGTACCCGCGCGCGGGTGCAGCTCCTCATGGTGGTGGATGGCAACCGCGCCGAGGAC  
 CTCTACATGGTCGACATGTTCCGCGAGGCTTCGCTGACGAGGACCCCGCCACGTACGTGTGGGACGGCA  
 ACTACCACAGCCCTGGGAACCCGCGGCGGGCGGGTGGGCGCCGGAGCCTATCGGGAGGTGGAGGC  
 GGAGGATCCTGGCGGCTGGCAGTGGAGGCGCTGGTGGAGACTCGCAGGTGCGTGTGCGTGGCGCAGCGC  
 TGGGGCGCAAGCGCGAGGTCATGTACACAGCCTTCAAGGCGCTCGGAGATTCGGTGGACTACGTGCAGG  
 TCTGTGACTCGGACACAAGGTTGGACCCATGGCACTGCTGGAGCTCGTGCGGGTACTGGACGAGGACCC  
 CCGGGTAGGGGCTGTTGGTGGGACGTGCGGATCCTTAACCTCTGGACTCCTGGGTGAGCTTCTTAAGC  
 AGCCTGCGATACTGGGTAGCCTCAATGTGGAGCGGGCTGTGAGAGCTACTTCCACTGTGTATCCTGCA  
 TCAGCGGTCTCTAGGCCTATATAGGAATAACCTTTCAGCAGTTTTCTTGAGGCCTGGTACAACAGAA  
 GTTCTGGGTACCACTGTACTTTGGGATGACCGGCACCTACCAACCGCATGCTCAGCATGGGTTAT  
 GCTACCAAGTACACCTCCAGTCCCGTCTACTCAGAGACGCCCTCGTCTTCTGCGGTGGCTGAGCC  
 AGCAGACACGCTGGTCCAAGTCTACTTCGAGTGGCTGTACAACGCGCTCTGGTGGCACCGGACCA  
 TGCGTGGATGACCTACGAGGCGGTGGTCTCCGGCCTGTTCCCTTCTTCGTGGCGCCACTGTGCTGCGT  
 CTGTTCTACGCGGGCCGCCCTTGGGCGCTGCTGTGGTGTGCTGTGCGTGCAGGGCGTGGCACTGGCCA  
 AGGCGGCCTTCGCGCCTGGCTGCGGGGCTGCCTGCGCATGGTGTCTGTGCTCTACGCGCCCTCTA  
 CATGTGTGGCCTCCTGCCTGCCAAGTCTGCGCTAGTACCATGAACCAGAGTGGTGGGGCACCTCG  
 GGCCGGCGGAAGCTGGCCGTAACCTACGCTCCTGCTGCCCCTGGCGCTCTGGGCGCTGCTGCTGCTT  
 GGGGCTGGTCCGACGCTAGCACACGAGGCCAGGGCCGACTGGAGCGGCCCTTCCCGCGCAGCCGAGGC  
 CTACCCTTGGCCGCGGGGCGGGCCTACGTGGGCTACTGGTGGCCATGTTGACGCTGTACTGGGTG  
 GCGTGGCGAGGCTTTGCCGGCGCGGACCGGGGCTACCGCGTCCAGGTG

**ACGCGT**ACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC238962 representing NM\_001297436  
 Red=Cloning site Green=Tags(s)

MRQDAPKPTAACRCSGLARRVLTIAFALLILGLMTWAYAAGVPLASDRYGLLAFGLYGAFLSAHLVAQS  
 LFAYLEHRRVAAAARGPLDAATARSVALTISAYQEDPAYLRQCLASARALLYPRARLRVLMVVDGNRAED  
 LYMVMDFREVFADDPATYVWDGNYHQWEPAAAGAVGAGAYREVEAEDPGRlaveALVRTRRCVVAQR  
 WGGKREVMYAFKALGDSVDYVQVCDSDTRLDPMALLELVRLDEDPRVGAVGGDVIRILNPLDSWVSFLS  
 SLRYWVAFNVERACQSYFHCVSCI SGPLGLYRNLLQQFLEAWYNQKFLGTHCTFGDDRHLTNRMLSMGY  
 ATKYTSRRCYSETPSSFLRWLSQQTRWSKSYFREWLYNALWHRHHAWMTYEAVVSGLFPFFVAATVLR  
 LFYAGRPWALLWVLLCVQGVAKAAFAAWLRGCLRMVLLSLYAPLYMCGLLPAKFLALVTMNQSGWGTS  
 GRRKLAANYVPLLPLALWALLLLGGLVRSVAHEARADWSGPSRAAEAYHLAAGAGAYVGYWVAMLTYWV  
 GVRRLCRRRTGGYRVQV

**TRTRPLEQKLI**SEEDLAANDILDYKDDDDKV

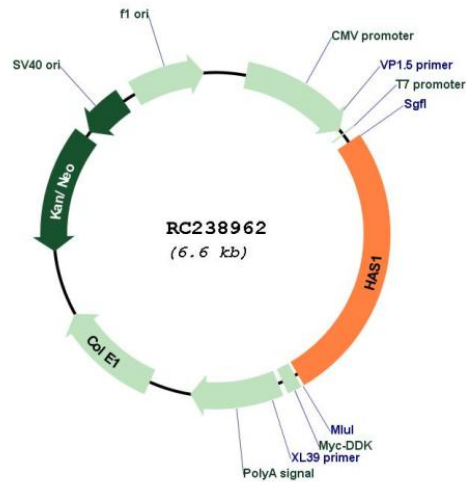
**Restriction Sites:**

Sgfl-MluI

## Cloning Scheme:



## Plasmid Map:



ACCN: NM\_001297436

ORF Size: 1731 bp

<b>OTI Disclaimer:</b>	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>
<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_001297436.2</a>
<b>RefSeq Size:</b>	2137 bp
<b>RefSeq ORF:</b>	1734 bp
<b>Locus ID:</b>	3036
<b>Cytogenetics:</b>	19q13.41
<b>Protein Families:</b>	Druggable Genome, Transmembrane
<b>MW:</b>	65.2 kDa

**Gene Summary:**

Hyaluronan or hyaluronic acid (HA) is a high molecular weight unbranched polysaccharide synthesized by a wide variety of organisms from bacteria to mammals, and is a constituent of the extracellular matrix. It consists of alternating glucuronic acid and N-acetylglucosamine residues that are linked by beta-1-3 and beta-1-4 glycosidic bonds. HA is synthesized by membrane-bound synthase at the inner surface of the plasma membrane, and the chains are extruded through pore-like structures into the extracellular space. It serves a variety of functions, including space filling, lubrication of joints, and provision of a matrix through which cells can migrate. HA is actively produced during wound healing and tissue repair to provide a framework for ingrowth of blood vessels and fibroblasts. Changes in the serum concentration of HA are associated with inflammatory and degenerative arthropathies such as rheumatoid arthritis. In addition, the interaction of HA with the leukocyte receptor CD44 is important in tissue-specific homing by leukocytes, and overexpression of HA receptors has been correlated with tumor metastasis. HAS1 is a member of the newly identified vertebrate gene family encoding putative hyaluronan synthases, and its amino acid sequence shows significant homology to the hasA gene product of *Streptococcus pyogenes*, a glycosaminoglycan synthetase (DG42) from *Xenopus laevis*, and a recently described murine hyaluronan synthase. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2014]