

## Product datasheet for **RG204458**

### **GNS (NM\_002076) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	GNS (NM_002076) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GNS
Synonyms:	G6S
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG204458 representing NM\_002076  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCGGCTCTGCCTCTAGCCCCAGGTCGGCTCCGGCGGGCAGCCCCGCCACCTGCCCTCTGCAGCC  
 CAGCGCTGCTACTGCTGGTGGTGGCGGCTGCCTGGGGTCTTCGGGGTGGCTGCCGGAACCCGAGGCC  
 CAACGTGGTGTCTCTCACGGACGACCAGGACGAAGTCTCGCGGCATGACACCGCTAAAGAAAACC  
 AAAGCTCTCATCGGAGAGATGGGGATGACTTTTTCCAGTGCTTATGTGCCAAGTCTCTCTGCTGCCCA  
 GCAGAGCCAGTATCCTGACAGGAAAGTACCCACATAATCATCACGTTGTGAACAACACTCTGGAGGGAA  
 CTGCAGTAGTAAGTCTGGCAGAAGATCCAAGAACAAATACTTTCCAGCAATTCTCAGATCAATGTGT  
 GGTATCAGACCTTTTTGCAGGAAATATTTAAATGAGTACGGAGCCCCAGATGCAGGTGGACTAGAAC  
 ACGTTCCTCTGGGTTGGAGTTACTGGTATGCCTTGGAAAAGAATTCTAAGTATTATAATTACACCCTGTC  
 TATCAATGGGAAGGCACGAAGCATGGTAAAACATAGTGTGGACTACCTGACAGATGTTTTGGCTAAT  
 GTCTCCTTGGACTTTCTGGACTACAAGTCCAACCTTGGAGCCCTTTCATGATGATCGCCACTCCAGCGC  
 CTCATTCCGCTTGGACAGCTGCACCTCAGTACCAGAAGGCTTCCAGAATGTCTTTGCACCAAGAAACAA  
 GAACCTCAACATCCATGGAACGAACAAGCACTGGTTAATTAGGCAAGCCAAGACTCCAATGACTAATTCT  
 TCAATACAGTTTTAGATAATGCATTTAGGAAAAGGTGGCAAACCTCCTCTCAGTTGATGACCTTGTGG  
 AGAAACTGGTCAAGAGGCTGGAGTTCACCTGGGGAGCTCAACAACACTTACATCTTCTATACCTCAGACAA  
 TGGCTATCACACAGGACAGTTTTCTTGGCAATAGACAAGAGACAGCTGTATGAGTTTGATCAAAGTT  
 CCAGTGTGGTTCGAGGACCTGGGATCAAACAAATCAGACAAGCAAGATGCTGGTTGCCAACATTGACT  
 TGGGCTCTACTATTTGGACATTGCTGGCTACGACCTAAATAAGACACAGATGGATGGGATGCTTATT  
 GCCCATTTTGAGAGGTGCCAGTAACTTGACCTGGCGATCAGATGCTCTGGTGAATACCAAGGAGAAGGC  
 CGTAACGTCACCTGACCCAACATGCCCTTCCCTGAGTCCTGGCGTATCTCAATGCTTCCAGACTGTGAT  
 GTGAAGATGCTTATAACAATACCTATGCCTGTGTGAGGACAATGTGAGCATTGTGGAATTTGCAGTATTG  
 CGAGTTTGTGATGACCAGGAGGTGTTGTAGAAGTCTATAATCTGACTGCAGACCCAGACCAGATCACTAAC  
 ATTGCTAAAACCATAGACCCAGAGCTTTTAGGAAAGATGAACTATCGGTTAATGATGTTACAGTCTGTT  
 CTGGGCCAACCTGTCGCACTCCAGGGTTTTGACCCCGGATACAGGTTTACCCCGTCTCATGTTTCAG  
 CAATCGCGGCAGTGTGAGACTCGAAGATTTTCAAACATCTTCTG

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG204458 representing NM\_002076  
 Red=Cloning site Green=Tags(s)

MRLPLAPGRLRRGSPRHLPCSPALLLVLGGCLGVFGVAAGTRRPNVVLLLDDQDEVLLGMTPPKK  
 KALIGEMGMTFSSAYVPSALCCPSRASILTKYPHNHVNVNNTLEGNCSSKSWQKIQEPNTFPAILRSMC  
 GYQTFAGKYLNEYGAPDAGGLEHVPLGWSYWYALEKNSKYNYTLSINGKARKHGENYSVDYLDVLAN  
 VSLDFLDYKSNFEPFFMMIATPAPHSPWTAAPQYQKAFQNVFAPRNKFNHGHGNTKHWLIRQAKTPMTNS  
 SIQFLDNFRKRWQTLLSVDLVEKLVKLEFTGELNNTYIFYTSDNGYHTGQFSLPIDKRQLYEFDIK  
 PLLVRGPGIKPNQTSKMLVANIDLGPTILDIAGYDLNKTQMDGMSLLPILRGASNLTWRSVDLVEYQGE  
 RNVTDPTCPSLSPGVSQCFPDCVEDAYNNTYACVRTMSALWNLQYCEFDQEVFVEVYNLADPDQITN  
 IAKTIDPELLGKMNRYRLMLQSCSGPTCRTPGVFDPGYRFDPRMLF SNRGSVRRRRSKHLL

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_002076

**ORF Size:** 1656 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\\_002076.4](#)

**RefSeq Size:** 5130 bp

**RefSeq ORF:** 1659 bp

**Locus ID:** 2799

**UniProt ID:** [P15586](#)

**Cytogenetics:** 12q14.3

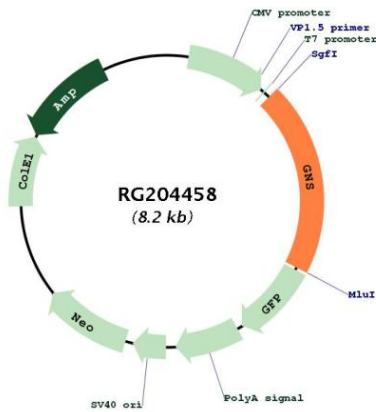
**Domains:** Sulfatase

**Protein Families:** Druggable Genome, Transmembrane

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

**Gene Summary:** The product of this gene is a lysosomal enzyme found in all cells. It is involved in the catabolism of heparin, heparan sulphate, and keratan sulphate. Deficiency of this enzyme results in the accumulation of undegraded substrate and the lysosomal storage disorder mucopolysaccharidosis type IIID (Sanfilippo D syndrome). Mucopolysaccharidosis type IIID is the least common of the four subtypes of Sanfilippo syndrome. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG204458