

## Product datasheet for **RC223777**

### beta Casein (CSN2) (NM\_001891) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	beta Casein (CSN2) (NM_001891) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	beta Casein
Synonyms:	CASB; PDC213
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC223777 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGAAGTCCTCATCCTCGCCTGCCTGGTGGCTCTTGCTCTTGCAAGGGAGACCATAGAAAGCCTTTCAA  
GCAGTGAGGAATCTATTACAGAATAACAAGCAGAAAGTTGAGAAGGTTAAACATGAGGACCAGCAGCAAGG  
AGAGGATGAACACCAGGATAAAATCTACCCCTTTCCAGCCACAGCCTCTGATCTATCCATTTCGTTGAA  
CCTATCCCCTATGGTTTCTCCACAAAACATTCTGCCTCTTGCTCAGCCTGCTGTGGTGCCTGCCTGTC  
CTCAGCCTGAAATAATGGAAGTCCCTAAAGCTAAAGACTGTCTACACTAAGGGCAGAGTGATGCCTGT  
CCTTAAATCTCCAACGATACCCTTTTTTGACCCTCAAATCCCAAACTCACTGATCTTGAAATCTGCAT  
CTTCTCTGCCTCTGCTCCAGCCCTTGATGCAGCAGGTCCTCAGCCTATTCTCAGACTCTTGCACTTC  
CCCCTCAGCCCCTGTGGTCTGTTCTCAGCCCAAAGTCTGCCTATCCCCAGCAAGTGGTGCCTACCC  
TCAGAGAGCTGTGCCTGTTCAAGCCCTTCTGCTCAACCAAGAAGTCTACTTAACCCACCACAGATC  
TACCCTGTGACTCAGCCACTTGCCCCAGTTCATAACCCATTAGTGTC

**ACGCGT**ACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC223777 protein sequence  
Red=Cloning site Green=Tags(s)

MKVLILACLVALALARETIESLSSEESITEYKQKVEKVKHEDQQQGEDEHQDKIYPSFQPPLIYPFVE  
 PIPYGFLLPQNILPLAQPAVVLPVPQPEIMEVPKAKDTVYTKGRVMPVLKSPTIPFFDPQIPKLTDLNLH  
 LPLPLLQPLMQQVPQIPQTLALPPQPLWSVPQPKVLPVLPQVVPYPQRAVPVQALLLNQELLLNPTHQI  
 YPVTQPLAPVHNPISV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6451\\_f05.zip](https://cdn.origene.com/chromatograms/mk6451_f05.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001891

**ORF Size:** 678 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\\_001891.3](#)

**RefSeq Size:** 1078 bp

**RefSeq ORF:** 681 bp

**Locus ID:** 1447

**UniProt ID:** [P05814](#)

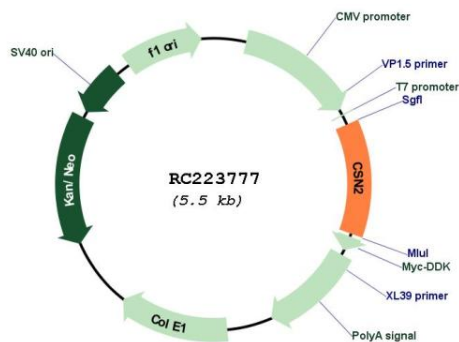
**Cytogenetics:** 4q13.3

**Protein Families:** Secreted Protein

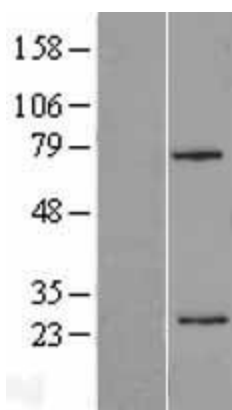
**MW:** 25.4 kDa

**Gene Summary:** This gene is a member of the beta casein family. There are two types of casein protein, beta (encoded by this gene) and kappa, both of which are secreted in human milk. Beta casein is the principal protein in human milk and the primary source of essential amino acids for a suckling infant. Beta and kappa casein proteins acting together form spherical micelles which bind within them important dietary minerals, such as calcium and phosphorous. In addition, the C-terminal 14 aa of the protein has antimicrobial activity, especially in preterm milk, displaying antibacterial activity against *S. aureus* and *Y. enterocolitica*. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jul 2020]

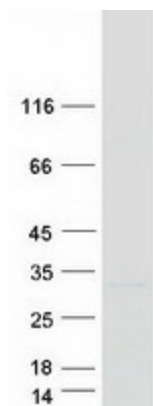
### Product images:



Circular map for RC223777



Western blot validation of overexpression lysate (Cat# [LY419688]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC223777 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CSN2 protein (Cat# [TP323777]). The protein was produced from HEK293T cells transfected with CSN2 cDNA clone (Cat# RC223777) using MegaTran 2.0 (Cat# [TT210002]).