

Product datasheet for **RR210429**

Hcst (NM_001005900) Rat Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Hcst (NM_001005900) Rat Tagged ORF Clone
Tag: Myc-DDK
Symbol: Hcst
Synonyms: Dap10
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RR210429 representing NM_001005900
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCCTCCAGGTCACCTCCTGTTCTGTTCTGCTCCAGTGGCCGCAAGTCAGACAAACGAAGTT
CCTGCTCCGGATGTGGCCTCTGTCCCTGCCACTCCTGGCAGGCCTGGTGGCTGCAGATCGGTCATGTC
ACTTCTAATAGTGGGGTGGTGTGTTGTATGTATGCGCCTACACAGCAGGCCTGCCAAGAAGATGGTCGA
GTCTACATCAACATGCCTGGGAGAGGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR210429 representing NM_001005900
Red=Cloning site Green=Tags(s)

MAPPGHLLFLFLLPVAASQTNEGSCSGCPLSLPLLAGLVAADAVMSLLIVGVVFCMRLHSRPAQEDGR
VYINMPGRG

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

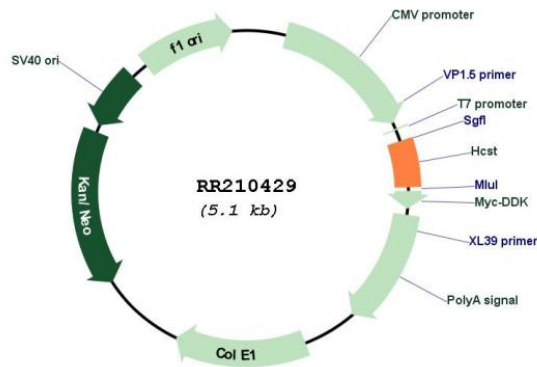


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Cloning Scheme:



Plasmid Map:



ACCN: NM_001005900

ORF Size: 237 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:	<ol style="list-style-type: none">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:	<u>NM_001005900.1</u> , <u>NP_001005900.1</u>
RefSeq Size:	446 bp
RefSeq ORF:	240 bp
Locus ID:	474146
UniProt ID:	<u>Q6X9T8</u>
Cytogenetics:	1q21
MW:	8.2 kDa
Gene Summary:	Transmembrane adapter protein which associates with KLRK1 to form an activation receptor KLRK1-HCST in lymphoid and myeloid cells; this receptor plays a major role in triggering cytotoxicity against target cells expressing cell surface ligands such as MHC class I chain-related MICA and MICB, and UL16-binding proteins (ULBPs); these ligands are up-regulated by stress conditions and pathological state such as viral infection and tumor transformation. Functions as docking site for PI3-kinase PIK3R1 and GRB2. Interaction of ULBPs with KLRK1-HCST triggers calcium mobilization and activation of the PIK3R1, MAP2K/ERK, and JAK2/STAT5 signaling pathways. Both PIK3R1 and GRB2 are required for full KLRK1-HCST-mediated activation and ultimate killing of target cells. In NK cells, KLRK1-HCST signaling directly induces cytotoxicity and enhances cytokine production initiated via DAP12/TYROBP-associated receptors. In T-cells, it provides primarily costimulation for TCR-induced signals. KLRK1-HCST receptor plays a role in immune surveillance against tumors and is required for cytolysis of tumors cells; indeed, melanoma cells that do not express KLRK1 ligands escape from immune surveillance mediated by NK cells (By similarity).[UniProtKB/Swiss-Prot Function]