

## Recombinant Human PSMA7, His-tagged

**Cat. No.** PSMA7-31004TH    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant full length Human PSMA7 with N terminal His tag; 268 amino acids with a predicted MWt 30kDa including tag.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ProteinLength</b>    | 248 amino acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Description</b>      | <p>The proteasome is a multicatalytic proteinase complex with a highly ordered ring-shaped 20S core structure. The core structure is composed of 4 rings of 28 non-identical subunits; 2 rings are composed of 7 alpha subunits and 2 rings are composed of 7 beta subunits. Proteasomes are distributed throughout eukaryotic cells at a high concentration and cleave peptides in an ATP/ubiquitin-dependent process in a non-lysosomal pathway. An essential function of a modified proteasome, the immunoproteasome, is the processing of class I MHC peptides. This gene encodes a member of the peptidase T1A family, that is a 20S core alpha subunit. This particular subunit has been shown to interact specifically with the hepatitis B virus X protein, a protein critical to viral replication. In addition, this subunit is involved in regulating hepatitis virus C internal ribosome entry site (IRES) activity, an activity essential for viral replication. This core alpha subunit is also involved in regulating the hypoxia-inducible factor-1alpha, a transcription factor important for cellular responses to oxygen tension. Multiple isoforms of this subunit arising from alternative splicing may exist but alternative transcripts for only two isoforms have been defined. A</p> |

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pseudogene has been identified on chromosome 9.

|                                 |                                                                                                                                                                                                                                                                                                   |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conjugation</b>              | HIS                                                                                                                                                                                                                                                                                               |
| <b>Molecular Weight</b>         | 30.000kDa inclusive of tags                                                                                                                                                                                                                                                                       |
| <b>Form</b>                     | Liquid                                                                                                                                                                                                                                                                                            |
| <b>Purity</b>                   | >90% by SDS-PAGE                                                                                                                                                                                                                                                                                  |
| <b>Storage buffer</b>           | pH: 8.00 Constituents: 0.32% Tris HCl, 0.58% Sodium chloride, 20% Glycerol                                                                                                                                                                                                                        |
| <b>Storage</b>                  | Please see Notes section                                                                                                                                                                                                                                                                          |
| <b>Sequences of amino acids</b> | MGSSHHHHHSSGLVPRGSHMSYDRAITVFSPDGHLFQVE YAQEAVKKGSTAVGV<br>RGRDIVVLGVVEKKSVAKLQDERTVR KICALDDNVCMAFAGLTADARIVINRARVECQ<br>SHRLTVED PVTVEYITRYIASLKQRYTQSNRRPFGISALIVGFDFDG TPRLYQTDP<br>SGTYHAWKANAIGRGAKSVREFLEKNYTDEA IETDDLTIKLVIKALLEVVQSGGKNIE<br>LAVMRRDQSLKIL NPREEIKYVAEIEKEKEENEKKKQKKAS |
| <b>Sequence Similarities</b>    | Belongs to the peptidase T1A family.                                                                                                                                                                                                                                                              |

## GENE INFORMATION

|                        |                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | PSMA7 proteasome (prosome, macropain) subunit, alpha type, 7 [ Homo sapiens ]                                                                          |
| <b>Official Symbol</b> | PSMA7                                                                                                                                                  |
| <b>Synonyms</b>        | PSMA7; proteasome (prosome, macropain) subunit, alpha type, 7; proteasome subunit alpha type-7; C6; HSPC; proteasome subunit RC6 1; proteasome subunit |

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|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | XAPC7; RC6 1; XAPC7;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Gene ID</b>             | 5688                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>mRNA Refseq</b>         | NM_002792                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Protein Refseq</b>      | NP_002783                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>MIM</b>                 | 606607                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Uniprot ID</b>          | O14818                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Chromosome Location</b> | 20q13.33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Pathway</b>             | APC/C-mediated degradation of cell cycle proteins, organism-specific biosystem;<br>APC/C:Cdc20 mediated degradation of Securin, organism-specific biosystem;<br>APC/C:Cdc20 mediated degradation of mitotic proteins, organism-specific biosystem;<br>APC/C:Cdh1 mediated degradation of Cdc20 and other APC/C:Cdh1 targeted proteins in late mitosis/early G1, organism-specific biosystem; Activation of APC/C and APC/C:Cdc20 mediated degradation of mitotic proteins, organism-specific biosystem; |
| <b>Function</b>            | identical protein binding; peptidase activity; protein binding; threonine-type endopeptidase activity;                                                                                                                                                                                                                                                                                                                                                                                                  |