

# Active Recombinant Human Procathepsin K Protein

**Cat. No.** CTSK-22H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Product Overview</b> | Recombinant Human CTSK was expressed in Insect cells.                                                                                                                                                                                                                                                                                                                              |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Source</b>           | Insect Cells                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Description</b>      | Cathepsin K, a member of the papain family of cysteine proteases, acts upon proteins such as collagen, AL amyloid, kinin and elastin. It is a lysosomal protease expressed primarily in osteoclasts, but also in other cell types such as macrophages. It functions in bone remodeling and is implicated in disease states such as atherosclerosis, arthritis and pycnodysostosis. |
| <b>Form</b>             | Liquid. In 27.8μ20mM sodium phosphate, pH 6.9, 500mM NaCl, 1 mM EDTA.                                                                                                                                                                                                                                                                                                              |
| <b>Bio-activity</b>     | To activate proenzyme, add 32.5mM NaOAc, pH 3.5, to 20% of procathepsin K volume (e.g., 5μprocathepsin K + 1μ32.5mM NaOAc, pH 3.5), and incubate at room temperature for 25-30 minutes, or at +4 centigrade for approximately seven hours.                                                                                                                                         |
| <b>Molecular Mass</b>   | 35.3kDa                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Purity</b>           | ≥95% (SDS-PAGE)                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Applications</b>     | Useful tool to study enzyme kinetics, cleave target substrates and screen for inhibitors.                                                                                                                                                                                                                                                                                          |

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| <b>Notes</b>            | Avoid freeze/thaw cycles. After opening, prepare aliquots and store at -80 centigrade.                                                                                                                                                                                                                                                                                     |
| <b>Stability</b>        | Use/Stability: -80 centigrade. After initial defrost, aliquot product into individual tubes and refreeze at -80 centigrade. Avoid repeated freeze/defrost cycles and extended periods unfrozen. This enzyme is stable when stored as received under the above conditions. Procedures such as dilution of the enzyme followed by refreezing could lead to loss of activity. |
| <b>Storage</b>          | Long Term Storage: -80 centigrade                                                                                                                                                                                                                                                                                                                                          |
| <b>GENE INFORMATION</b> |                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Gene Name</b>        | CTSK cathepsin K [ Homo sapiens ]                                                                                                                                                                                                                                                                                                                                          |
| <b>Official Symbol</b>  | CTSK                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Synonyms</b>         | CTSK; cathepsin K; cathepsin K (pseudosclerosis) , CTSO, CTSO2, PYCD; PKND; cathepsin O; cathepsin X; cathepsin O1; cathepsin O2; CTSO; PYCD; CTSO2; CTSO1; CTSO2; MGC23107;                                                                                                                                                                                               |
| <b>Gene ID</b>          | 1513                                                                                                                                                                                                                                                                                                                                                                       |
| <b>mRNA Refseq</b>      | NM_000396                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Protein Refseq</b>   | NP_000387                                                                                                                                                                                                                                                                                                                                                                  |
| <b>MIM</b>              | 601105                                                                                                                                                                                                                                                                                                                                                                     |
| <b>UniProt ID</b>       | P43235                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Chromosome</b>       | 1q21                                                                                                                                                                                                                                                                                                                                                                       |

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| Location |                                                                                                                                                                                                                                                                                                                                   |
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| Pathway  | Immune System, organism-specific biosystem; Innate Immune System, organism-specific biosystem; Lysosome, organism-specific biosystem; Lysosome, conserved biosystem; Osteoclast Signaling, organism-specific biosystem; Osteoclast differentiation, organism-specific biosystem; Osteoclast differentiation, conserved biosystem; |
| Function | cysteine-type endopeptidase activity; cysteine-type peptidase activity; peptidase activity;                                                                                                                                                                                                                                       |

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