

# Native Human ELANE

**Cat. No.** ELANE-27537TH    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b>    | Full length native Human Neutrophil Elastase purified from Human Neutrophils; MWt 29.5kDa.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>             | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Description</b>         | <p>Elastases form a subfamily of serine proteases that hydrolyze many proteins in addition to elastin. Humans have six elastase genes which encode the structurally similar proteins. The product of this gene hydrolyzes proteins within specialized neutrophil lysosomes, called azurophil granules, as well as proteins of the extracellular matrix following the proteins release from activated neutrophils. The enzyme may play a role in degenerative and inflammatory diseases by its proteolysis of collagen-IV and elastin of the extracellular matrix. This protein degrades the outer membrane protein A (OmpA) of E. coli as well as the virulence factors of such bacteria as Shigella, Salmonella and Yersinia. Mutations in this gene are associated with cyclic neutropenia and severe congenital neutropenia (SCN). This gene is clustered with other serine protease gene family members, azurocidin 1 and proteinase 3 genes, at chromosome 19pter. All 3 genes are expressed coordinately and their protein products are packaged together into azurophil granules during neutrophil differentiation.</p> |
| <b>Tissue specificity</b>  | Bone marrow cells.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Biological activity</b> | Activity:20-22 units per mg protein. One unit is defined as the amount of enzyme that hydrolyzes one micromole of Meo-suc-ala-pro-val-pNA per minute at 25°C in 100 mM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                              |                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------|
|                              | Tris-HCl, pH 7.5, with 500 mM NaCl.                                                     |
| <b>Form</b>                  | Lyophilised                                                                             |
| <b>Purity</b>                | >95% by SDS-PAGE                                                                        |
| <b>Storage buffer</b>        | Preservative: None<br>Constituents: ddH2O                                               |
| <b>Storage</b>               | Shipped at 4°C. Store at -20°C.                                                         |
| <b>Sequence Similarities</b> | Belongs to the peptidase S1 family. Elastase subfamily. Contains 1 peptidase S1 domain. |
| <b>Full Length</b>           | Full L.                                                                                 |

## GENE INFORMATION

|                        |                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | ELANE elastase, neutrophil expressed [ Homo sapiens ]                                                                                   |
| <b>Official Symbol</b> | ELANE                                                                                                                                   |
| <b>Synonyms</b>        | ELANE; elastase, neutrophil expressed; ELA2, elastase 2, neutrophil; neutrophil elastase; HLE; HNE; leukocyte elastase; medullasin; NE; |
| <b>Gene ID</b>         | 1991                                                                                                                                    |
| <b>mRNA Refseq</b>     | NM_001972                                                                                                                               |
| <b>Protein Refseq</b>  | NP_001963                                                                                                                               |
| <b>MIM</b>             | 130130                                                                                                                                  |

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| <b>Uniprot ID</b>          | P08246                                                                                                                                                                                                                                                                                                               |
| <b>Chromosome Location</b> | 19p13.3                                                                                                                                                                                                                                                                                                              |
| <b>Pathway</b>             | C-MYB transcription factor network, organism-specific biosystem; Systemic lupus erythematosus, organism-specific biosystem; Systemic lupus erythematosus, conserved biosystem; Transcriptional misregulation in cancers, organism-specific biosystem; Transcriptional misregulation in cancers, conserved biosystem; |
| <b>Function</b>            | bacterial cell surface binding; cytokine binding; endopeptidase activity; heparin binding; peptidase activity;                                                                                                                                                                                                       |

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