

# Active Recombinant Full Length Human CA1 Protein, His tagged

**Cat. No.** CA1-03HFL    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Active Recombinant Full Length Human CA1 Protein (Ala2-Phe261) with a C-terminal 10-His tag was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>ProteinLength</b>    | 2-261 aa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Description</b>      | Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. This CA1 gene is closely linked to the CA2 and CA3 genes on chromosome 8. It encodes a cytosolic protein that is found at the highest level in erythrocytes. Allelic variants of this gene have been described in some populations. Alternative splicing and the use of alternative promoters results in multiple transcript variants. |
| <b>Form</b>             | Supplied as a 0.2 µm filtered solution in Tris and NaCl.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Bio-activity</b>     | Measured by its esterase activity. The specific activity is > 10 pmol/min/µg, as measured under the described conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|                                     |                                                                                                                                                                                                               |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Endotoxin</b>                    | < 1 EU/μg by LAL                                                                                                                                                                                              |
| <b>Purity</b>                       | > 95 %, by SDS-PAGE under reducing conditions and visualized by silver stain.                                                                                                                                 |
| <b>Applications</b>                 | Enzyme Activity                                                                                                                                                                                               |
| <b>Storage</b>                      | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70 centigrade as supplied. 3 months, -20 to -70 centigrade under sterile conditions after opening. |
| <b>Shipping</b>                     | The product is shipped with polar packs.                                                                                                                                                                      |
| <b>N-terminal Sequence Analysis</b> | Ala2                                                                                                                                                                                                          |

## GENE INFORMATION

|                        |                                                                                                                                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>       | CA1 carbonic anhydrase I [ Homo sapiens (human) ]                                                                                     |
| <b>Official Symbol</b> | CA1                                                                                                                                   |
| <b>Synonyms</b>        | CA1; carbonic anhydrase I; carbonic anhydrase 1; Car1; carbonic anhydrase B; carbonic dehydratase; carbonate dehydratase I; CAB; CA-I |
| <b>Gene ID</b>         | 759                                                                                                                                   |
| <b>mRNA Refseq</b>     | NM_001128829                                                                                                                          |
| <b>Protein Refseq</b>  | NP_001122301                                                                                                                          |
| <b>MIM</b>             | 114800                                                                                                                                |

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UniProt ID

P00915

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