

## Active Recombinant Human CA12 Protein, His tagged

**Cat. No.** CA12-104H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | Recombinant human CA12, fused to His-tag at C-terminus, was expressed in insect cell and purified by using conventional chromatography techniques.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Source</b>           | Insect Cells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ProteinLength</b>    | 25-301 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. This gene product is a type I membrane protein that is highly expressed in normal tissues, such as kidney, colon and pancreas, and has been found to be overexpressed in 10% of clear cell renal carcinomas. Three transcript variants encoding different isoforms have been identified for this gene. |
| <b>Form</b>             | Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Molecular Mass</b>   | 31.94 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Bio-activity</b>     | Specific activity is > 300 pmol/min/μg, and is defined as the amount of enzyme that hydrolyze 1.0 pmole of 4-nitrophenyl acetate to 4-nitrophenol per minute at pH 7.5 at 37 centigrade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

 Tel: 1-631-559-9269    1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)     Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

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|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AASequence</b>     | APVNGSKWTYFGPDGENSWSKKYPSCGGLLQSPIDLHSDILQYDASLTPLEFQGGYN<br>LSANKQFLLTNNGHSVKLNLPSPDMHIQGLQSRYSATQLHLHWGNPNDPHGSEHTVS<br>GQHFAAELHIVHYNSDLYPDASTASNKSEGLAVLAVLIEMGSFNPSYDKIFSHLQHVK<br>YKGQEAFFVPGFNIEELLPERTAEYYRYRGSLLTPPCNPTVLWTVFRNPVQISQEQLL<br>ALETALYCTHMDDPSPREMINNFRQVQKFDERLVYTSFSQVQVCTAAGLS |
| <b>Application</b>    | SDS-PAGE, Enzyme Activity                                                                                                                                                                                                                                                                                |
| <b>Endotoxin</b>      | < 1 EU/μg by LAL                                                                                                                                                                                                                                                                                         |
| <b>Purity</b>         | > 90% by SDS-PAGE                                                                                                                                                                                                                                                                                        |
| <b>Note</b>           | For research use only. This product is not intended or approved for human, diagnostics or veterinary use.                                                                                                                                                                                                |
| <b>Storage</b>        | Can be stored at +2 to +8 centigrade for 1 week. For long term storage, aliquot and store at -20 to -80 centigrade. Avoid repeated freezing and thawing cycles.                                                                                                                                          |
| <b>Storage Buffer</b> | Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol                                                                                                                                                                                                                                               |
| <b>Concentration</b>  | 0.5 mg/mL (determined by absorbance at 280nm)                                                                                                                                                                                                                                                            |
| <b>Reference</b>      | 1. Tureci O. et al. (1998) Proc Natl Acad Sci U S A. 95(13):7608-13. 2. Kyllonen MS. et al. (2003) J Histochem Cytochem. 51(9):1217-24                                                                                                                                                                   |

## GENE INFORMATION

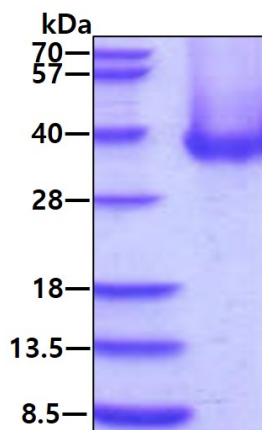
|                        |                                                     |
|------------------------|-----------------------------------------------------|
| <b>Gene Name</b>       | CA12 carbonic anhydrase 12 [ Homo sapiens (human) ] |
| <b>Official Symbol</b> | CA12                                                |

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|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Synonyms</b>       | CA12; carbonic anhydrase XII; carbonic anhydrase 12; HsT18816; CA-XII; carbonic dehydratase; carbonate dehydratase XII; tumor antigen HOM-RCC-3.1.3; CAXII; FLJ20151; |
| <b>Gene ID</b>        | 771                                                                                                                                                                   |
| <b>mRNA Refseq</b>    | NM_001218                                                                                                                                                             |
| <b>Protein Refseq</b> | NP_001209                                                                                                                                                             |
| <b>MIM</b>            | 603263                                                                                                                                                                |
| <b>UniProt ID</b>     | O43570                                                                                                                                                                |

**SDS-PAGE**


3 µg by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

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