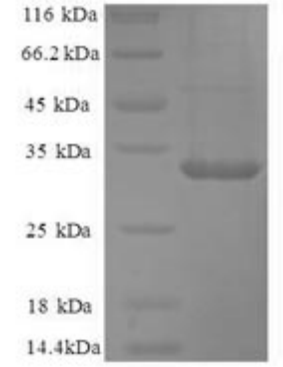
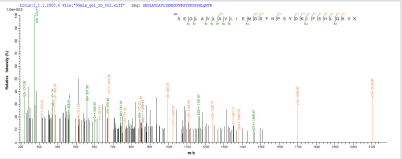
Recombinant Human Carbonic anhydrase 12 (CA12), partial

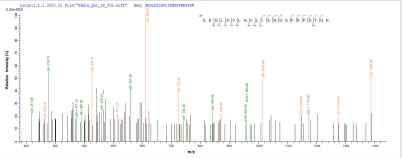
Product Code	CSB-YP004367HU
Relevance	Reversible hydration of carbon dioxide.
Abbreviation	Recombinant Human CA12 protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O43570
Alias	Carbonate dehydratase XIICarbonic anhydrase XII ;CA-XIITumor antigen HOM-R;CC-3.1.3
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	APVNGSKWTYFGPDGENSWSKKYPSCGGLLQSPIDLHSDILQYDASLTPLEFQGYNLSANKQFLLTNNGHSVKLNLPSDMHIQGLQSRYSATQLHLHWGNPNDPHGSEHTVSGQHFAAELHIVHYNSDLYPDASTASNKSEGLAVLAVLIEMGSFNPSYDKIFSHLQHVKYKGQEAFVPGFNIEELLPERTAEYYRYRGSLTTPPCNPTVLWTVFRNPVQISQEQLLALETALYCTHMDDPSPREMINNFRQVQKFDERLVYTSFSQVQVCTAAGLS
Research Area	Cancer
Source	Yeast
Target Names	CA12
Protein Names	Recommended name: Carbonic anhydrase 12 EC= 4.2.1.1 Alternative name(s): Carbonate dehydratase XII Carbonic anhydrase XII Short name= CA-XII Tumor antigen HOM-RCC-3.1.3
Expression Region	25-301aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	33.1kDa
Protein Length	Extracellular Domain
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



Based on the SEQUEST from database of Yeast host and target protein, the LC-MS/MS Analysis result of CSB-YP004367HU could indicate that this peptide derived from Yeast-expressed Homo sapiens (Human) CA12.



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Description

The production of this Recombinant Human cry1Ac protein began at the genetic level, where the coding sequence for the cry1Ac protein was first isolated and cloned into an expression plasmid vector. Recombinant DNA technology was used in the process. Next step was cloning. The expression vector must be introduced into the host cell (Yeast) so that the cells could be cultured and expressed the desired CA12 protein. And we finally got the recombinant CA12 protein with the purity of 90%+ determined by SDS-PAGE.

The carbonic anhydrase 12 (CA12) gene encodes a zinc metalloenzyme that catalyzes reversible carbon dioxide hydration and thereby modulates a range of biological processes. CA12 is a type I membrane protein that has been found to be expressed in renal cell carcinoma and a range of other cancer types. There is some evidence that CA12 can promote tumor growth by driving micro environmental acidification. And some studies have primarily found that CA12 expression is restricted to certain cell types with maximal expression in terminally differentiated cells. In breast cancer patients, intratumoral CA12 upregulation is associated with better patient prognosis, whereas in oral cancer this gene is associated with tumor invasion and metastasis. Currently, CA12 is known to play central roles in regulating many cancers, but its function in the context of different cancers remains to be fully discussed.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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