Canine Carbonic Anhydrase IX / CA9 Protein (Fc Tag)

Catalog Number: 70028-D02H

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CA9

Protein Construction:

A DNA sequence encoding the canine CA9 (Met1-Leu410) was expressed, fused with the Fc region of human IgG1 at the C-terminus.

Source: Canine

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Measured by its esterase activity. The specific activity is > 10 pmoles/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gln 38

Molecular Mass:

The recombinant canine CA9/Fc is a disulfide-linked homodimer. The reduced monomer comprises 614 amino acids and has a predicted molecular mass of 67.6 kDa. The apparent molecular mass of the protein is approximately 79 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 25mM Tris, 0.15 M NaCl, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

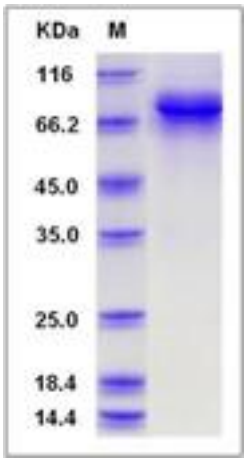
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Carbonic anhydrases IX (CA IX), also known as membrane antigen MN or CA9, is a member of the carbonic anhydrase (CA) family and may be involved in cell proliferation and cellular transformation. CAs are zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide ($H_2O + CO_2 = H^+ + HCO_3^-$) and thus participate in a variety of biological and physical processes. CA IX protein is expressed primarily in carcinoma cells lines, and the expression is cell density dependent and has been shown to be strongly induced by hypoxia, accordingly facilitates adaptation of tumor cells to hypoxic conditions. It is involved in tumorigenesis through many pathways, such as pH regulation and cell adhesion control. CA IX is used as a marker of tumor hypoxia and as a new therapeutic target for many human carcinomas and cancers.

References

1.Loncaster JA, *et al.* (2001) Carbonic anhydrase (CA IX) expression, a potential new intrinsic marker of hypoxia: correlations with tumor oxygen measurements and prognosis in locally advanced carcinoma of the cervix. Cancer Res. 61(17): 6394-9. 2.Zvada J, *et al.* (2003) Soluble form of carbonic anhydrase IX (CA IX) in the serum and urine of renal carcinoma patients. Br J Cancer. 89(6): 1067-71. 3.Pan P, *et al.* (2006) Carbonic anhydrase gene expression in CA II-deficient (Car2-/-) and CA IX-deficient (Car9-/-) mice. J Physiol. 571(Pt 2): 319-27.