

Calpain Control Peptide

Alternate names: CANP, Calcium activated neutral Proteinase

Catalog No.: AP09931CP-N

Quantity: 0.25 mg

Background: Schistosoma mansoni is a parasite trematode that inhabits the blood vessels of its mammalian hosts and the causative agent for schistosomiasis which affect more than 200 million people. Because of the difficulties in maintaining the cultures of Schistosomes in laboratories, one approach to develop immunotherapy against this disease is to clone the genes encoding antigens that are reactive to the antisera of infected hosts (1, 2). This approach led to identification of several candidate genes, one of these candidate genes (Rizk) has high degree of similarities of the large subunit of calcium-activated neutral proteinase (CANP-calpain).

Calpain is an intracellular protease that is ubiquitously present in most mammalian tissues and is involved in activation of protein kinase C, degradation of cytoskeletal and muscle proteins and modification of neurofilaments (3). The Calpain activity is modified by calcium and its endogenous inhibitor calpastatin (4). There are 2 isoforms of calpain: uCalpain and mCalpain requiring μ M and mM concentration of activators.

Calpain is a heterodimer consisting of 2 large 80 kDa subunits and small 30 kDa subunit. There are two functional domains on large 80 kDa subunits, a papain-like thiolprotease domain near N-terminal and a calmodulin-like calcium binding domain near the C-terminal end of the protein. The small subunit contains a calmodulin-like calcium binding domain and a EF hand motif. Calpain from Schistosoma mansoni has some degree of sequence similarity to calpain from human (4). The Schistosoma mansoni calpain has two putative glycosylation sites compared to one in human calpain. The amino-terminal end of calpain is rich in glycine which suggests its interaction with plasma membrane upon activation in the presence of calcium and phospholipids.

Uniprot ID: [P27730](#)

NCBI: [6183](#)

Format: **State:** Liquid synthetic peptide

Description: Antigenic blocking peptide for AP09931PU-N

Storage: Store (in aliquots) at -20 °C. Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Wright DM., Henkle KJ., Mitchell GF. J. Immunology 144; 3195-3200, 1990
2. Stein LD., Harn DA., David JR., J. Biol. Chem. 256; 6582-6588, 1990
3. Pontremoli S and Melloni E. Ann. Rev. Biochem. 55, 455-481. 1986.
4. Anderson K., Tom DT., Strand M J. Biol. Chem. 266, 15085-15090, 1991.