ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Life Technologies™ Your Molecular & Cell Technology Partner

Recombinant purified Human Calcineurin A (CnA)PP2B

Cat. # CALNA15-R Purified recombinant Human Calcineurin A protein **SIZE**: 1000 Units

FORM: Soln Lyophilized

Calcineurin is a Ca/calmodulin-dependent serine-threonine phosphatase that plays an important role in transducing Ca-dependent signals in a variety of cell types. Calcineurin has also been shown to have a profound influence on the properties of striated muscle cells, including cardiac muscle. **Calcineurin** (also known as CALNA or CALNA1, Calcineurin-alpha, Protein phosphatase 2B or PP2B) is the Ca+/calmodulin-regulated protein phosphatase, first detected in skeletal muscle and brain, has been found in from yeast to mammals. It is a heterodimers of two subunits: **Calcineurin B/CnB**, the 19-kda Ca+-binding and regulatory subunit, and **Calcineurin A/CnA,** ~61-kda catalytic subunit that is highly homologous with PP1 and PP2A. . Multiple catalytic subunits of calcineurin are derived from at least 2 structural genes, type 1 (calcineurin A-alpha) and type 2 (calcineurin A-beta, CALNA2), each of which can produce additional alternatively spliced transcripts. CnB belongs to the family of EF-hand Ca-binding proteins. Both CnB and calmodulin are important for the activation of the phosphatase activity of calcineurin. Calcineurin controls the production of many cytokines including IL-2, TNF-alpha in the T-cell activation pathway. Calcineurin mediated dephosphorylation of the nuclear factor of activated T-cells (NF-AT) is required for NF-AT activation, nuclear translocation, and subsequent gene expression in T-cells. The immunosuppressive drugs, such as FK506, inhibit activation of NF-AT by calcineurin.

Source of Protein

Human calcineurin A-alpha (~60 kDa) and calcineurin B (~19 kDa) were co-expressed in E. coli with yeast myristoyl-CoA:protein N-myrisoyltransferase and purified to >95%. Recombinant and purified (.95%) Calcineurin is N-myristoylated on the CnB, as in the natural protein, resulting into biologically active protein. This protein preparation is biologically active.

Form & Storage of Antibodies/Peptide Control

Store at –70oC in suitable aliquots. Avoid repeated freeze and thaw.

Stability: 6-12 months at –20oC or below.

Shipping: Cold paks/dry ice.

Biological activity

One unit is defined as the amount of enzyme that will release 1.0 pmol of phosphate from the RII phosphopeptide substrate (DLDVPIPGRFDRRV(pS)VAAE) in the presence of calmodulin per minute at 30oC, pH 7.4 (Mondragon, 1997).

General References: (1) Mondragon A et al (1997) Biochemistry 36, 4934; Muramatsu T et al (1993) BBA 1178, 117; Kissinger CR et al (1995) Nature 378, 641; Giri; P et al (1991) BBRC 181, 252; Guerinin D et al (1989) PNAS 86, 9183; Maleeret G et al (2001) Cell 104, 675; Rothermel BA et al (2001) PNAS 98, 3328;

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies: CaT-1/2; Calbindins, S100, Parvalbumin, Calretinin, Calsarcins

CALNA15R 70305A

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