

## Product Specification Sheet

### Concanavalin A (ConA) Protein

Cat. # CONA15-N

**Concanavalin A Lectin** from *Canavalia ensiformis* (Jack bean), purified and low endotoxin for cell culture  
**SIZE:** 5 mg

Concanavalin A (ConA) is a lectin (carbohydrate-binding protein) originally extracted from the jack-bean, *Canavalia ensiformis*. It binds specifically to certain structures found in various sugars, glycoproteins, and glycolipids, mainly internal and nonreducing terminal  $\alpha$ -D-mannosyl and  $\alpha$ -D-glucosyl groups. ConA is a plant mitogen, and is known for its ability to stimulate mouse T-cell subsets giving rise to four functionally distinct T cell populations, including precursors to suppressor T-cell; [4] one subset of human suppressor T-cells as well is sensitive to ConA. ConA was the first lectin to be available on a commercial basis, and is widely used in biology and biochemistry to characterize glycoproteins and other sugar-containing entities on the surface of various cells. It is also used to purify glycosylated macromolecules in lectin affinity chromatography, as well as to study immune regulation by various immune cells.

As most lectins, the ConA is a homotetramer: each sub-unit (26.5KDa, 235 amino-acids, heavily glycosylated) binds a metallic atom (usually  $Mn^{2+}$  and a  $Ca^{2+}$ ). Its tertiary structure as been elucidated, and molecular basis of its interactions with metals, its affinity for the mannose and glucose are well known. ConA binds specifically  $\alpha$ -D-mannosyl and  $\alpha$ -D-glucosyl residues (two hexoses differing only by the alcohol on carbon 2) in terminal position of ramified structures from B-Glycans (reach in  $\alpha$ -mannose, or hybrid and bi-antennary glycanes complexes). It has 4 binding sites, corresponding to the 4 sub-units. The molecular weight is 104-112KDa and the isoelectric point (pI) is in the range of 4.5-5.5.

#### Source of Antigen

Con A p was purified from *Canavalia ensiformis* (Jack bean). It is supplied in PBS as liquid (or see lot sp. conc on the vial) or in powder form. Dissolve powder in PBS at 5-10 mg/ml to prepare stock solution or dilute in a desire buffer and sterile filter if necessary. Store powder or stock solutions at -20oC or below. Do not store diluted working solutions <10 ug/ml.

This preparation can be used for ELISA or cell culture studies.

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

**Shipping:** 4oC for solutions and room temp for lyophilized items.

**General References:** (1). Sumner JB (1983) JBC 125, 454-48; Dwer JM (1981) Clin Exp. Immunol. 46, 237-249; Krauss S (1999) BBA 1412, 129-138; Noona KD (1973) JCB 59, 134-142;

\*This product is for in vitro research use only.

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