ImmunoBioScience Corp. (IBSC) *DATA SHEET*

Biotin conjugated ConA (Jack bean, *Canavalia ensiformis)*

**Catalog number:**  LE-6882-11

**Description: Concanavalin A** is a lectin protein (MW 104kDa), homotetramer 26 kDa; originally extracted from the jack-bean, *Canavalia ensiformis*. It binds specifically to certain structures found in various sugars α-mannosyl and α-glucosyl residues in glycoproteins. It 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. It is also used to purify macromolecules in lectin affinity chromatography**.** Concanavalin A interacts with diverse receptors containing mannose carbohydrates (serum and membrane glycoproteins).ConA agglutinate strongly erythrocytes without being blood group specific, and cancerous cells. Normal cells agglutinate after trypsinisation. ConA is a also a lymphocyte mitogen.ConA reacts with many bacteria, like *E. coli* *Dictyostelium discoideum* et *B. substilis* It is also widely believed to be involved in the interaction between alpha-mannosyl oligosaccharides on the surface of the HIV virus and the human T cell lymphocyte.

**Unit**: 1 ml Concentration**:** 5 mg/ml

**Conjugation:** Affinity purified Con A is conjugated with Biotin and purified on gel filtration column.

**Intended Use**: Histochemistry 1: 250-1:1000; WB 1:500-1:2,500; ELISA 1:500-1:2,500.

Dilute biotinylated lectin in PBS containing 0.1 mM calcium chloride ions.

For Histochemistry the tissues are processed same as for Immunohistochemistry, after blocking step biotinylated lectin is applied followed by streptavidin conjugated to enzyme and chromogen. For WB incubate membrane with blocking protein followed by biotinylated lectin, streptavidin enzyme conjugate and chromogen. For ELISA the target proteins are absorbed on ELISA plate at a concentration of 5-10 µg/ml, followed by blocking with protein solution followed by Biotinylated lectin, Streptavidin enzyme conjugate, ELISA substrate. Please refer to Histochemistry, WB and ELISA protocol for detail information.

The optimum dilution should be determined by the individual lab.

**Storage: Storage**: 2-8°C

**Buffer:** 10 mM bicarbonate, 150 mM NaCl, pH 8, 0.1 mM Calcium chloride, 0.01mM manganese chloride and 0.05% sodium azide**. (Con A has an Isoelectric point of about pH 4.5-5.5 and requires calcium or manganese ions at each of its four saccharide binding sites; THESE IONS SHOULD BE USED IN BUFFER. DO NOT USE PHOSPHATE BUFFER FOR DILUTION OF THIS LECTIN AS IT WILL DECREASE THE ACTIVITY OF LECTIN)**

**Inhibiting/Eluting sugars:** 200 α-mM α-methyl mannoside / 200 mM α-methyl glucoside mixture.

**Carbohydrate-Binding Specificity of Con A:** (Manα1,2Manα1,2Man > Manα1,2Man > α-Man > α-Glc > αGlcNAc

**References:**

1. Sumner, J. B and Howell, S. F J. Bacterol. 32: 227-237, 1936

2. Bittiger, H and Schnebli, H P “Con A as a tool, Wiley, NY, 1976.

3. Goldstein, I J and Portez, RD “Lectins” editors IE Liner. N Sharon and IJ Goldstein, Academic press, NY, 1986.

4. Hardman KD Biochemistry 11 (26) 4910-9, 1972

5. Loris, R etal BBA, 1383 (1), 9-36, 1998.

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**MSDS:** This product contains 0.05 % sodium azide as a preservative, appropriate care should be taken in handling. National Institute of Occupational Safety and Health has warning that sodium azide can react with lead, copper, brass or solder in the plumbing system and forms hydrazoic acid in acidic condition. Discard with copious amount of water. Avoid skin and eye contact with all laboratory products. Use appropriate lab. gear, lab coat , gloves and safety glasses. Do not ingest any lab. products. This product is not approved for administration in human or animals.

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