

Concanavalin A (Con A) from Jackbean (*Canavalia ensiformis*) meal

L-CONA200 (Lot 70301) and L-CONA1000 (Lot 70301)

04/2007

DESCRIPTION

(1) FORM

Affinity purified, off-white lyophilised powder.

(2) BIOCHEMICAL / PHYSIOLOGICAL PROPERTIES

Con A is not blood group specific, has an affinity for terminal α -D-mannose and α -D-glucose residues and requires the presence of Ca^{2+} and Mn^{2+} for activity. Con A exists in dimeric (pH < 5.6), tetrameric (pH between 5.6 and 7.0) and aggregate (pH > 7.0) forms. An active dimer above pH 5.6 can be generated by succinylation. Con A exhibits mitogenic activity which is dependent upon its degree of aggregation.

PROPERTIES

Activity:

20 $\mu\text{g}/\text{mL}$

Electrophoretic purity:

Electrophoresis was performed using a 14 % acrylamide gel.

UV absorbance :

In 100 mM NaCl; $\lambda_{\text{max}} = 275.8$; $E^{1\%} = 13.7$.

Solubility:

Slightly hazy, colourless solution at 10 mg/mL in water.

Activity note:

Activity is determined using a twofold serial dilution of 1 mg/mL solution of Con A in PBS* (8.0 g NaCl, 0.3 g KCL, 0.2 g $\text{KH}_2\text{PO}_4/\text{L}$; pH 7.2) containing 1 mM Ca^{2+} and 1 mM Mn^{2+} . The activity is expressed as the lowest concentration to give agglutination of a 2 % suspension of human red blood cells (type O) in PBS* after 1 h incubation at room temperature.

STORAGE TEMPERATURE: - 20°C

SHELF LIFE: > 3 years at - 20°C.

SAFETY STATEMENYS: 22-24 / 25

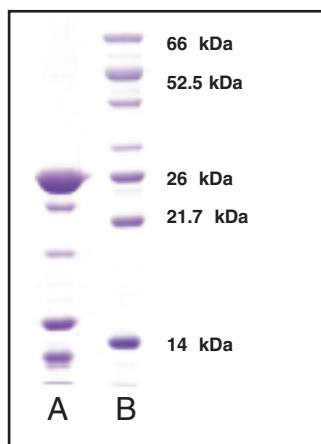


Figure 1. Isoelectric focusing of purified Con A shows that it exists as a heterogenous mixture of isoforms with pI values in the range of 4.5-5.5 (Entlicher et al., 1971)

lane A, Megazyme Con A, 10 μg ;

lane B, low molecular weight markers (in-house standards).

- a. Entlicher, G. J., Kostir, V. and Kocourek, J. (1971) *Studies on phytohemmagglutinins. 8. Isoelectric point and multiplicity of purified concanavalin A*". *Biochim Biophys Acta* **236(3)**: 795-7.