

## Product Information

### Concanavalin A from *Canavalia ensiformis* (Jack bean)

Product Number **C 7275**

Storage Temperature -0 °C

#### Product Description

CAS Number: 11028-71-0

Molecular Weight: The monomeric molecular weight is 25.5 kDa. At pH 5.5 Con A exists as a dimer and at pH>7 it exists as a tetramer.<sup>1</sup>

Extinction Coefficient:  $E^{1\%} = 11.4$  (280 nm, 100 mM NaCl)<sup>2</sup>

pI: 4.5, 4.7, 5.1, 5.5<sup>3</sup>

Synonyms: Con A, Concanavalin A from Jack bean

Concanavalin A isolated from Jack bean is a lectin, although it is not a glycoprotein like most other phytohemagglutinins.<sup>4</sup> The protein does not contain any cysteine residues.<sup>5</sup> Con A is a metalloprotein and requires a transition metal ions such as manganese and calcium for saccharide binding to occur. Each subunit has a binding site for one Mn<sup>2+</sup>, one Ca<sup>2+</sup>, and one oligo- or polysaccharide. Removal of these cations by dialysis under acidic conditions abolishes the carbohydrate binding activity. This protein will bind to the glucosyl and mannosyl residues at the nonreducing terminus of polysaccharides and glycoproteins. Unmodified hydroxyl groups at the C3, C4, and C6 positions of D-glucopyranosyl or D-mannopyranosyl rings are considered to be essential for binding.  $\alpha$ -glucopyranosides and  $\alpha$ -mannopyranosides bind more strongly than the  $\beta$ -forms.<sup>6</sup>

Concanavallin A is a stimulator of lymphocyte blast formation<sup>7</sup> and possesses mitogenic activity.<sup>8,9</sup> It also agglutinates red blood cells and complexes with blood group sugars.<sup>10</sup> Concanavalin A, when immobilized to a chromatography resin, may also be used to purify glycoproteins. The bound glycoprotein may be eluted with 500 mM  $\alpha$ -methyl-D-mannoside, which has a high affinity for Concanavalin A.<sup>11</sup>

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble in water (10 mg/ml), yielding a slightly hazy, faint yellow solution.

#### Storage/Stability

Solutions of Concanavalin A in 1 M NaCl are stable when stored at -20 °C.

#### References

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