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Product Information

Concanavalin A
from *Canavalia ensiformis* (Jack bean)
Cell Culture Tested

Catalog Number **C5275**
Storage Temperature –20 °C

CAS RN 11028-71-0
Synonym: ConA

Product Description

Concanavalin A is a lectin, a protein characterized by sugar-binding capabilities. Con A demonstrates a binding specificity to α-D-mannose and α-D-glucose moieties, and is useful for carbohydrate studies, glycoprotein purification, enzyme tagging, cell membrane studies, cell agglutination, and cell typing. In cell culture applications, it has the ability to induce mitogenic activity of T-lymphocytes and to increase synthesis of cellular products.

At pH 7 or greater, Con A has a tetrameric structure consisting of 4 subunits with equal molecular masses of 26 kDa. In acidic conditions (pH 4.5–5.5) Con A converts to a dimeric structure. Each monomer, regardless of pH or molecular structure, contains 2 metal ion binding sites. Metal ions (Ca^{2+} and Mn^{2+}) must be bound to these sites in order for the sugar binding to occur.

This Concanavalin A product is highly purified and aseptically filled. It is lyophilized powder from a solution containing buffer salts and NaCl.

This Con A product agglutinates 2% fresh human type A red blood cells in 0.01 M PBS, pH 6.8, with 0.1 mM calcium and manganese at a concentration of ≤20 µg lectin/ml.

A lymphocyte transformation assay is used to determine suitability for cell culture applications. The mitogenic activity of this product is assessed by bromodeoxyuridine incorporation and is found to have peak incorporation at ≤75 µg lectin/ml of medium.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Add 1.0 ml of sterile phosphate buffered saline or tissue culture medium to the vial and gently rotate. The solution may appear hazy. The reconstituted product may be further diluted to desired working concentrations using sterile buffer prior to use.
Note: Filtration should be avoided to prevent any product loss.

Storage/Stability

Prior to reconstitution, store the vial at –20 °C. After reconstitution, store aliquots at –20 °C. Prolonged storage of product and repeated freezing and thawing are not recommended.

References

1. Berger, S., Lymphocytes as resting cells. Methods in Enzymology, **58**, 486-494 (1979).
2. Cunningham, B. et al., in Mitogens in Immuno-biology, Oppenheim, J., and Rosenstreich, D., eds., Academic Press (New York, NY: 1975), pp. 13-30.
3. Quantitation and Functional Assay of T and B Cells. in Immunology Series No. 8 Procedures Guide, (May 1978), pp. 11-20, U.S. Dept HEW-PHS, CDC Bureau of Laboratories, Atlanta GA 30333.

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