ABSOLUTE LECTINS

05-0106 Conocanavalin A (Con A)

Benefits

- Sugar spcificity: α-Man, α-Glc
- Mitogen acting, principally on T-lymphocytes
- Reacts with a number of bacterial and animal cells
- High activity

Product description

Concanavalin A (ConA) lectin is isolated from Jack beans (Canavalia ensiformis) and purified by affinity chromatography. The molecular weight of the lectin is 104 kDa. The lectin has broad applicability and is the most widely used lectin within molecular biology research.

ConA binds specifically to α-Mannose, α-Galactose structures found in sugars, glycoproteins and glycolipids (2). The lectin has been utilized in hormone receptor studies, mitogenic assays and for characterizing normal and malignant cells (cancer cells are readily aggregated by ConA while normal cells are not). ConA can also initiate cell division (mitogenesis) principally acting on T-lymphocytes (3).

Immobilized ConA has been used in affinity chromatography purifications of a wide variety of glycoproteins and cellular structures. Polyacrylamide gel electrophoresis in SDS of ConA from Jack beans yields three major bands corresponding to molecular weights 27, 13 and 10 kDa. One minor band is visible at 18 kDa. (4)

Medicago's ConA is supplied as a white lyophilized powder from 0.5 mM $MnCl_2$, 0.5 mM $CaCl_2$, no preservatives are added. The lectin is available in vials containing 250 mg or 100 mg lyophilized powder and the product is to be used for laboratory work only.

Applications

- Hormone receptor studies
- Lymphocyte mitogenic studies
- Characterization of certain normal and malignant cells

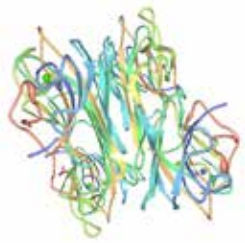

Figure 1: Crystal structure of Ni, Ca Concanavalin A (3)

Specifications	*Concanavalin A (Con A) (05-0106)*
Appearence	White lyophilized powder or flocculate
Source	Jack beans (Canavalia ensiformis)
Molecular weight	104 kDa
Sugar specificity	α-Man, α-Glc
Activity	0,5 to 10 µg/ml agglutinates neuraminisidase treated erytrocytes. Aggregates malignant cells.
Microorganisms	≤ 100 CFU/g
Shelf life	≥ Five years when stored at -20°C

Medicago AB
Uppsala, Sweden
Phone +46 18 56 11 80
www.medicago.se

Medicago
YOUR TRUSTED PARTNER IN BIOTECH

ABSOLUTE LECTINS

05-0106 Conocanavalin A (Con A)

Directions for use

The lectin may be reconstituted with 2 ml of deionized water before use, spin the vial gently until full dissolution. The solution may be reconstituted in this buffer to desired working concentration. Aggregation is thought to occur in the presence of high concentrations of 2-mercaptoethanol. The solution may be reconstituted in this buffer to desired working concentration. In absence of lactose the lectin will polymerize and storage at pH 8.6–8.8 causes precipitation.

Tips and hints

Avoid repeated freezing and thawing.

Shipping and storage

The product is shipped at -20°C however for over-the-day transport it may be shipped at ambient temperature. The lyophilized powder is stable for more than five years from production date when stored below -20°C. After reconstitution with deionized water, the solution may be stored frozen in working aliquots for up to 12 months.

Certifications

Medicago's laboratories and manufacturing site in Uppsala are ISO 9001:2015 certified. Each stage of the manufacturing process is controlled and monitored by stringent quality control procedures to guarantee the highest possible quality and lot-to-lot reproducibility.

Ordering information

Article no.	Product name	Pack size
05-0106-100mg	*Conocanavalin (Con A)*	*100 mg*
05-0106-250mg	*Conocanavalin (Con A)*	*250 mg*
05-0106-1g	*Conocanavalin (Con A)*	*1 g*
05-0106-10g	*Conocanavalin (Con A)*	*10 g*
05-0106-100g	*Conocanavalin (Con A)*	*100 g*

References

(1) Ahmed, H.U., Blakeley, M.P., Cianci, M., Cruickshank, D.W.J., Hubbard, J.A., Helliwell, J.R. (2007) The Determination of Protonation States in Proteins. Acta Crystallogr.,Sect.D 63: 906.
(2) Liener I. E., Sharon N., Goldstein I. J., (1986) The Lectins – Properties, Functions and Applications in Biology and Medicine.
(3) Krauss S., Buttgereit F., (1999) Effects of the mitogen concanavalin A on pathways of thymocyte energy metabolism. BrandBiochim Biophys Acta 1412:129–38.
(4) John L. Wang, Bruce A. Cunningham and Gerald M. Edelman (1971) Unusual Fragments in the Subunit Structure of Concanavalin A (gelelectrophoresis/molecularweights) Proc. Nat. A cad. Sci. USA Vol. 68, No. 6, pp. 1130-1134, JuRm

Art no 24-0232u04, 2020-11

Medicago AB
Uppsala, Sweden
Phone +46 18 56 11 80
www.medicago.se

Medicago
YOUR TRUSTED PARTNER IN BIOTECH