Musa acuminata lectin – BanLec

Product description

Musa acuminata lectin (BanLec) is isolated from banana pulp and purified by affinity column chromatography on a Mannose-Sepharose 6B-CL gel. This Jacalin-type lectin is a dimeric lectin composed of two identical subunits of 15 kDa (1).

BanLec shows affinity towards (2):
- terminal α-D-mannosyl/glycosyl units
- internal α-1,3-mannosyl/glucosyl units
- terminal β-1,3-glucosyl units.

The recognition of both internal 3-O-mannosyl/glucosyl residues and the reducing terminal 3-O-mannosyl/glucosyl unit of oligosaccharides make BanLec unique in its carbohydrate binding properties (3).

BanLec agglutinates rabbit erythrocytes (4). Moreover, BanLec has been demonstrated to be a powerful murine T-cell mitogen and also has been shown to stimulate human T-cell profileration (1).

Ordering informations

Reference	Name	Quantity
L1889-2	BanLec lectin	2 mg
L1889-5	BanLec lectin	5 mg

Applications

Validated in GLYcoPROFILE
Agglutination studies
Stimulation of cell proliferation
Binding/Recognition studies based on specific properties of this lectin

Features

Mannose binding lectin

Product specifications

Appearance: in solution

Source: Banana pulp

Molecular weight: 30 kDa

Structure: Homodimer of 15 kDa.

Carbohydrate specificity:
- terminal α-D-mannosyl/glycosyl units
- internal α-1,3-mannosyl/glucosyl units
- terminal β-1,3-glucosyl units

Number of carbohydrate recognition sites: 4

Inhibitory carbohydrate: Mannose, Glucose

Activity: Agglutinates animals erythrocytes.

Buffer: PBS 150 mM with $MgCl_2$ (0,5 mM) et $CaCl_2$ (1 mM)

Microorganisms: < 100 CFU/g

Protein content: > 99 %

Identity & Purity: SDS-PAGE, one single band at 15 kDa.

Shelf life: Two years when stored at -20 °C.

Shipping and storage:

The product is shipped at -20 °C however for over-the-day transport it may be shipped at ambient temperature. The solution is stable for two years from production date when stored below -20 °C.

For Research Use Only.

References

(1) Peumans *et al.* (2000) Fruit-specific lectins from banana and plantain. *Planta*, **211**, 546-554.

(2) Wearne *et al.* (2013). Isolation of banana lectin – a practical scale procedure from ripe banana fruit. *Prep Biochem Biotechnol.*, **43:3**, 285-292.

(3) Harry *et al.* (2005) Banana lectin is unique in its recognition of the reducing unit of 2-O—glucosyl/mannosyl dissaccharides : a calorimetric study. *Glycobiology*, **15**, 10 pp., 1043-1050.

(4) Koshte *et al.* (1990) Isolation and characterization of BanLec-I, a mannoside-binding lectin from *Musa paradisiac* (banana). *Biochem.*, **272**, 721-726.

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