



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant sfGFP-ConA Fusion Protein
Catalog Number: PRP-4376
Manufacturer: LD Biopharma, Inc. USA

Introduction

Concanavalin A (ConA) is a plant mannose/glucose-binding lectin isolated from the seeds of cereal plants such as giant bean (Jack bean, *Canavalia ensiformis*), and its monomer can bind one Ca^{2+} and one Mn^{2+} which contains a glycosyl-binding site with high affinity for terminal α -D-mannosyl and α -D-glucosyl residues. ConA specifically binds to mannosyl- and glucosyl-containing extracellular glycoproteins, as such, allowing the ConA conjugated magnetic beads, or superGFP-CoA fusion protein, to effectively "grab" and hold onto these cells or nuclei through this carbohydrate interaction (CoA-beads for capturing cell or nuclei for CUT & RUN assay) or flow-cytometry using GFP-CoA as detection reagent.

Full-length Concanavalin-A cDNA (237aa) was constructed with codon optimization gene synthesis and expressed with a SuperGFP protein as N-terminal (sfGFP; 257aa) tag in *E.coli* as soluble protein. The final product was affinity- chromatographically purified.

Gene Symbol: ConA
Accession Number: AAB28242
Species: Canvalia Lineata (Beach Bean)
Size: 50 μg / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20% Glycerol in PBS buffer/1mM CaCl_2 and 1mM MnCl_2 .
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4°C for at least two weeks.

Key References

Fujimura, S., et al., *Primary structures of concanavalin A-like lectins from seeds of two species of Canavalia*. *Phytochemistry* 33 (5), 985-987 (1993)



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Li Li et al., *Sample enrichment for single-nucleus sequencing using concanavalin A-conjugated magnetic beads.* (2023) DOI: [10.1016/j.xpro.2023.102595](https://doi.org/10.1016/j.xpro.2023.102595)

Applications

1. May be used for in vitro cells or nucleus isolation when combined with anti-GFP nano-antibody-magnetic beads. Also be used for flow-cytometry based assay for binding to cell surface glycoprotein.

Quality Control

Purity: > 85 % by SDS-PAGE.

sfGFP protein: **Ex λ** = 485nm, and **Em λ** = 510nm.

Recombinant sfGFP- ConA Fusion Protein Sequence (55.4 kD)

MKHHHHHHQVSKGEELFTGVVPIILVELDGDVNGHKFSVRGEGEGDATNGKLTCLKFICTTGGKLPVPWPTLV
TTLTYGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTISFKDDGTYKTRAEVKFEGLTLVNRIELKGIDFK
EDGNILGHKLEYNFNHNVYITADKQKNGIKANFKIRHNVEDGSQLADHYQONTPIGDGPVLLPDNHYL
STQSVLSKDPNEKRDMVLLFVTAAGITHGMDELYKSGLRSGGSGG**ENLYFQGSEF**ADTIIVAVELDTYP
NTDIGDPSYPHIGIDIKSVRSKKTAKWNMQNGKVGTAHIIYNSVGKRLSAVVSYPNGDSATVSYDVLDLN
VLPEWVRVGLSASTGLYKETNTILSWSFTSKLKSNSHETNALHFVFNQFSKDQKDLILQGDATTGTDGN
LELTRVSSNGSPQGNVGRALFYAPVHIWESSAVVASFDATFTFLIKSSDSHPADGIAFFISNIDSSIPS
GSTGRLLGLFPDAN