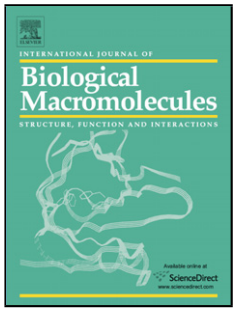

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Purification and characterisation of a pronase-inducible lectin isolated from human serum

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Abstract

A *new* lectin was purified to electrophoretic homogeneity from pronase treated human serum by a single-step of affinity chromatography on concanavalin A-Sepharose 4B. The isolated lectin agglutinated five types of vertebrate RBC, with highest titer against hen RBC. This activity was independent of divalent cations, insensitive to EDTA and specific to mannosamine, glucosamine as well as galactosamine. This lectin gave a single symmetrical peak in its native form with a molecular mass estimate of 6 kDa in FPLC analysis and 6.5 kDa by MALDI-TOF MS. SDS-PAGE analysis of the lectin revealed that it is a homo-oligomer of a 3 kDa subunit protein. This lectin did possess both, hemagglutinating and phenoloxidase activities, but did not exhibit any antibacterial or antifungal activities. The lectin could oxidize all nine different phenolic substrates tested, with hydroquinone proving to be the best among them. Phenoloxidase inhibitors namely, phenylthiourea and tropolone inhibited this oxidation activity.

Key words: isolation, lectin, characterisation, human serum, pronase, phenoloxidase.