

POSTER PRESENTATION

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# BUL: a novel lectin from *Bauhinia unguolata* L. seeds with fungistatic and antiproliferative activities

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A new galactose-binding lectin, termed BUL, has been purified from seeds of *Bauhinia unguolata* (Caesalpinoideae) by precipitation with solid ammonium sulfate followed by agarose-lactose affinity chromatography. *B. unguolata* lectin strongly agglutinated rabbit erythrocytes, both native and treated with proteolytic enzymes, and was inhibited by D-galactose and D-galactose-derived sugars, especially N-acetyl-D-galactosamine. BUL was shown to be a stable glycoprotein, maintaining its hemagglutinating activity after incubation at wide ranges of temperature and pH, but not after incubation with EDTA. By SDS-PAGE analysis under reduced conditions, purified BUL showed an electrophoretic profile consisting of a single band with apparent molecular mass of 30 kDa. BUL showed intrinsic fluorescence typical of folded globular proteins, and circular dichroism spectra of lectin in the native state showed a predominance of  $\beta$ -sheet secondary structure. The N-terminal amino acid sequence of 19 residues showed a high sequential similarity to other galactose-specific lectins from the *Bauhinia* genus. In addition, BUL showed antifungal activity against phytopathogenic species and showed *in vitro* antiproliferative activity against the HT-29 cell line of human colon adenocarcinoma in a dose-dependent manner.

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