

Thesis Title           STRUCTURAL ANALYSIS OF JACK FRUIT LECTIN  
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#### ABSTRACT

The structure of Jack fruit lectin (JFL) from the seeds of Jack fruit (Artocarpus heterophyllus) was studied using various techniques: proteolytic cleavage, peptide mapping, chemical modification and subunit dissociation by sodium dodecyl sulphate.

Hemagglutinating activity of JFL was most sensitive to pronase digestion. It was also sensitive to subtilisin, papain, and was less sensitive to trypsin, chymotrypsin, thermolysin. By gel filtration, the lectin activity was found to reside with intact JFL but not any digested product.

JFL activity was completely lost after chemical modifications of 5 lysine and 19 tryptophan residues. Inactivity was observed after modification of carboxyl groups, tyrosine or histidine. These residues were probably required for maintaining the active conformation. Subunits of JFL was not linked by disulfide bonding but could be dissociated by 0.01%

(w/v) sodium dodecyl sulfate which also caused the loss of its sugar-binding capacity.

JFL and Jacalin from Artocarpus integrifolia were shown to have similar structures by peptide mapping and similar subunit compositions by electrophoresis in sodium dodecyl sulfate.