PLANT LECTINS: MUCH MORE THAN GLYCOCODE DECODERS

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The most recent highly accepted lectin definition is based on their overall structure and defines lectins as non immune proteins with at least one non catalytic domain able to recognize and reversibly bind to specific mono and oligosaccharides. Although the focus on lectins has always been the carbohydrate binding site, there are some studies about other sites recognizing plant hormones and secondary metabolites. Some legume lectins present a hydrophobic binding site with high affinity for adenine and certain adenine-derived plant hormones. The binding of adenine has been described mainly for tetrameric legume lectins, including DBL, PHA-E and SBA. Here we report the crystal structure of a lectin isolated from *Canavalia gladiata* seeds (CGL), describing a new binding pocket that may be related to pathogen resistance activity in ConA like lectins; a site to where a non-protein amino-acid, a-aminobutyric acid, is bound. The presence of Abu in the CGL structure was confirmed by mass spectrometry. Our studies support other investigations suggesting a more complex role of lectins than recognition and decoding of carbohydrates.