

Biological Properties of Dietary Galactose Binding Plant Lectins †

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Abstract: Lectins are ubiquitous proteins that are abundantly found in nature. A lectin is a protein group with a non-immune origin that recognizes specific sugar structures. They are unique multivalent carbohydrates binding protein which agglutinates erythrocytes or precipitates the cells. These properties are very effective for blood typing, isolation and purification of protein (glycoprotein), and investigation of the cell membrane. A recent study reveals the anti-tumor effect of lectin on the cell. Tumor cells display different carbohydrate structures on cell membrane surfaces when compared to the normal non-tumor cells. Thus lectins are also used as therapeutic agents for detection. Lectin acts as an anti-tumor agent, but the factor for possessing the activity of anti-tumor effect is not clearly identified till now. Lectin may take place in multivalent binding or binding to several simultaneously, giving the binding affinity apparent larger than the individual interaction between them. The lectin role in fungi is known to be highly complicated than the role of lectin in higher plants. Some varieties were involved in fungi's metabolism, some play other roles in the interaction between cells, and few possess a symbiotic or parasitic relationship with others. Women who consume fresh mushroom daily on their diet were benefited from decreased breast cancer risk that may be dependent on the dose.

Keywords: lectin; galactose binding lectins; anti-cancerous properties.

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Conflicts of Interest

The authors declare no conflict of interest.