

The Receptor for β -Glucan of *Ganoderma lucidum* (W.Curt.:Fr.) Lloyd in Immune Cells

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The mechanisms on how polysaccharides of medicinal mushrooms can be absorbed and used in the potentiation of immunity in human bodies has not been elucidated until recently. In 2001, dectin-1 was identified as a β -glucan receptor, which is calcium dependent and whose gene is located on mouse chromosome 6 and human chromosome 12. The dectin-1 mRNA is highly expressed in dendritic cells. Dendritic cells and macrophages have pattern

recognition molecules for binding β -glucan. Dectin-1 was also found in murine organs, spleen, thymus, lung, and intestines. Treatment of macrophages with β -glucan of *Ganoderma lucidum* (GLG) resulted in an increase of IL-6 and TNF- α in the presence of LPS. But GLG alone did not increase IL-6 or TNF- α . The results suggest that dectin-1 may cooperate with CD-14 to activate signal transduction, which is important in immune responses.