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Characterization of Aspartic Proteinase from Basidiomycete, *Laetiporus sulphureus*

Hideyuki KOBAYASHI[1)] and Hyonok KIM[1)]

1) National Food Research Institute

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Aspartic proteinase from *Laetiporus sulphureus* was purified by sequential chromatographies on Sephadex G-100, DEAE-Sepharose Fast Flow, and Butyl-Toyopearl 650S. The final preparation was judged homogeneous by SDS-PAGE. The molecular mass of the purified enzyme was estimated to be 50,000 and the isoelectric point of the enzyme was 3.5. The enzyme was most active at pH 2.6 and was inhibited completely by a specific aspartic proteinase inhibitor, pepstatin A. The enzyme was extremely labile as compared to other milk-clotting enzymes and *N*-terminal amino acid sequence of the enzymes was closely related to that from a basidiomycete, *Irpex lacteus*. Comparison of substrate specificities of milk-clotting enzymes on αs1- and β-casein indicated that β-casein is a suitable substrate for identifying the specificities of these enzymes, because these enzymes showed different specificity on β-casein but similar specificity on αs1-casein.

Keywords: *Laetiporus sulphureus*, basidiomycete, aspartic proteinase, milk-clotting activity, casein, substrate specificity

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