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Continuous Proteolysis of Casein by the Cell Bound Protease of *Nigella sativa*

M.R.Khan^{1*} and H.Bokhari²

1. Center of policy and environment, Lahore School of Economics, 19-km Burki Road, Lahore, **PAKISTAN**
2. Department of Chemistry, Government College University, Lahore, **PAKISTAN**

Email: drrafiq@lahoreschool.edu.pk, khanmr1939@yahoo.com, alhamim@yahoo.com

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ABSTRACT

In this paper, a continuous proteolytic system for preparing protein hydrolysis products for different biological applications is developed. Continuous proteolysis of casein substrate prepared in phosphate buffer (pH 7) by the seeds of Nigella sativa packed in a column was attempted. Assuming that the seeds contained a mixture of soluble and cell-bound proteases, the soluble protease was eluted by passing buffer (pH 7) through the packed seeds. The buffered substrate was subsequently run into the column to constitute the system for continuous proteolysis. The products of proteolysis collected in the form of 5 mL fractions were assayed by Lowry's method. The system operated successfully for proteolysis on continuous basis. The extent of proteolysis was significantly high, which went on increasing with the passage of time. The data indicated that the life of cell bound protease of Nigella sativa was 39 days.

Keywords: Protein, Continuous proteolysis, Casein, *Nigella sativa*.
