

Nonenzymatic modification of ubiquitin under high-pressure and-temperature treatment : mass spectrometric studies.

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The effect of high-pressure and/or high-temperature on the glycation of a model protein (ubiquitin) was investigated by mass spectrometry. This paper reports the impact of high pressure (up to 1200 MPa) on the modification of a ubiquitin using ESI-MS measurements. The application of glucose labeled with stable isotope allows a quantitative assessment of modification under the conditions of high-pressure (HPG) and high-temperature (HTG) glycation. A higher degree of modification was observed for the sample heated at 80 °C for 25 min under atmospheric pressure than for sample treated under high pressure. In samples treated at pressure below 400 MPa an insignificant increase of glycation level was observed, whereas high pressure (>600 MPa) has only a minor effect on the number of hexose moieties (Fru) attached to the lysine residue side chain.

Słowa kluczowe

glycation, high-pressure glycation, Amadori products

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