Analysis of N^{ε}-carboxymethyl-lysine(CML) by Surface Plasmon Resonance(SPR) system

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Abstract

Diabetic retinopathy is a frequent microvascular complication. The modification of the lysine moieties of proteins to N^{ε}-carboxymethyllysine(CML) is supposed to play a major role in the development of long-term complications in patients with diabetes retinopathy. The CML was estimated by means of a novel competition-based ELISA or Immuno dot blot assay. But these methods are required complex process and long-time reaction. Therefore, we describe a method to improve the handiness and short-time reaction as surface plasmon resonance(SPR) and SPR image immunoassay using a CML-BSA and anti-CML antibody reaction. This work is capable of determining CML with good accuracy and precision in the relevant concentration range(0.173 - 17.3 ng/ml), with a limit of detection of 0.173 ng/ml.

Reference

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