

# Development of an automated immunoassay for AGEs in humn serum

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摘要

## Abstract

**Objective:** Nonenzymatic reaction of protein and carbohydrate produce a series of brown fluorescent advanced glycosylation end products (AGEs). However, a convenient and rapid assay for serum AGEs level is currently unavailable.

**Methods:** We raised AGEs-specific polyclonal antibodies, which were used to develop a fully automated, noncompetitive, homogeneous, light-scattering immunoassay for serum AGEs.

**Results:** The assay requires a sample volume of 2  $\mu$ L and takes a reaction time of 2 min. The coefficient of variation range from 1.8 to 6.1%, and the mean recovery rate was 98.6%. Comparative analysis shows moderate correlation with competitive ELISA ( $r = 0.8209$ ,  $n = 52$ ). The mean  $\pm$  SD concentration of AGEs in young and in older healthy subjects were  $4.6 \pm 1.5$  ( $n = 39$ ) and  $4.9 \pm 1.4$  ( $n = 40$ ), respectively. The level of AGEs was significantly higher in serum from patients with type II DM  $7.8 \pm 4.8$  ( $n = 89$ ) than that from the normal subjects ( $p < 0.05$ ).

**Conclusions:** The automatic immunoassay for AGEs is appropriate for clinical use.