

Search for natural compounds inhibiting AGE formation for preventing skin aging

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N^ε- (carboxymethyl) lysine (CML) is a advanced glycation end-products (AGEs) that was known as one of major AGEs in hydrolysate of glycated collagen. Subsequently, CML was also detected in human serum, and its level in patients with diabetes was found to be higher than in normal subjects. Furthermore, it is known that AGE-collagen induces apoptosis in fibroblasts through activation of reactive oxygen species and MAP kinases. Therefore, treatment with AGEs inhibitors may be a potential strategy for the prevention of clinical diabetic complications and skin aging. In the present study, we investigated the inhibitory effect of natural compounds on CML formation to discover the candidate agents for the new AGE inhibitors. In this screening, rutin, astragalín, quercetin and gallic acid showed significant inhibitory effect on CML formation during incubation of collagen with ribose, thus those compounds may be candidates for the new AGE inhibitors.