

# 26<sup>th</sup> World Nutrition Congress

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## 15<sup>th</sup> Euro Obesity and Endocrinology Congress

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### Advanced glycation end products

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**Statement:** Advanced glycation end-products (AGEs) are a complex group of molecules that have been found almost everywhere among tissues and organs of the human body and they come not only from an endogenous formation, but also from exogenous dietary exposure. Their concentration increases with age and a persistent exposure to elevated levels of endogenous and exogenous AGEs are thought to contribute to the pathogenesis and progression of a variety of chronic conditions, including type 1 diabetes, type 2 diabetes, neurodegenerative conditions, allergy, nonalcoholic steatohepatitis, asthma, inflammatory bowel disease, renal disease, and certain cancers. The human body has evolved a number of detoxification systems to reduce the burden associated with AGEs and their dicarbonyl precursors. Besides, limiting the dietary intake of foods that have undergone browning by the application of intense heat, particularly food and beverages containing high levels of protein or carbohydrate derived from simple sugars, would significantly reduce AGEs consumption. By considering the diverse pathways leading to AGEs formation, there are also molecular strategies for the inhibition of their formation like the following: antioxidants, metal ion chelators and compounds able to quench reactive carbonyl species (RCS) which act as AGEs. Another strategy to lessen the accumulation and to provide protection against the *in vivo* formation of AGEs is to use nutraceuticals that contain active ingredients derived from foods (e.g., vitamins, amino acids, antioxidants). Combination therapies that simultaneously target multiple pathways may be more successful than those that modify a single pathway.

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