### 7<sup>th</sup> Euro-Global Summit on

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### The metabolism and pharmacokinetics of steviol glycosides and their impact on the ADI

More than 40 different steviol glycosides have been identified in the leaves of the *Stevia rebaudiana* (Bertoni) plant. Steviol glycosides contain a steviol backbone attached to a number of differing sugar moieties including glucose, xylose and rhamnose. Metabolic studies indicate that following oral administration, these steviol glycosides pass undigested into the colon where they are then hydrolyzed to steviol prior to absorption. Once absorbed, steviol undergoes conjugation with glucuronic acid to form steviol glucuronide with the majority being excreted in the feces via the bile in rats and in the urine in human. The shared metabolic fate supported through *in vitro* studies using human fecal homogenates from healthy donors under anaerobic conditions, thereby supports that the ADI of 0-4 mg/kg/day which was determined for stevioside, is applicable to steviol glucosides in general. The ADI was based on the application of a 100-fold uncertainty factor to a NOAEL from a stevioside chronic rat study. In an attempt to increase the ADI, single dose stevioside pharmacokinetic studies generated a chemical specific adjustment factor of 1 and 2.8 based on comparative Cmax and AUC0-last data, respectively. Since these factors are lower than the default value of 4.0 for inter-species differences in toxicokinetics, a higher ADI for steviol glycosides of between 6 and 16 mg/kg/bw/day is justified.

#### **Biography**

Ashley Roberts gained his PhD from the University of Southampton. He is Senior Vice President of the Food & Nutrition Group at Intertek Scientific & Regulatory Consultancy and has published more than 60 papers and book chapters.

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