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Co-consumption of broccoli alters the fat bioaccessibility in baked cap meal. An in vitro study.

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Most foods are well characterized regarding their major nutrients such as fat (fatty acid, FA) or protein (amino acid) content, however their bioaccessibility (BA) and the effect of the co-consumption of bioactive-rich plant-based food on BA is rarely considered. In this work, BA of fat and protein in carp (Cyprinus carpio) meal – made in-house from the EU PDO food 'Akasztói szikiponty' filets – co-digested with steamed broccoli garnish – a food rich in bioactives associated with several health-related beneficial effect was assessed. The in vitro INFOGEST method was applied for digestion simulation and a previously developed GC-FID-based protocol was used for determining bioaccessible FAs. The sum of mono-, di-, triaminoacids present in the small intestinal digesta – considered as the bioaccessible fraction of proteins – was determined using a spectrophotometric method based on OPA derivatization. Broccoli garnish was added to carp at 12.5, 25 and 37.5 w/w% levels. Results show that addition of broccoli caused significant increase (from 32.1±4.2 to average: 43.7±1.8%)