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## Abstracts Book



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### BIOAVAILABILITY OF PHENOLIC COMPOUNDS FROM BLUEBERRY LEAF INFUSIONS (*VACCINIUM CORYMBOSUM* L.) IN CACO-2 CELLS

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Phenolic compounds are widespread in plant-derived foodstuffs and therefore abundant in our diet. There are evidences regarding the positive association of their intake with several diseases prevention. Blueberry leaves are of particular interest as they have been described as being rich in phenolic compounds such as chlorogenic acid and quercetin glycosides. Bioavailability is a major issue regarding the biological impact of these compounds *in vivo* and remains unclear, with few data available on this matter. Studies in CaCo-2 cells (enterocyte cell line) tested the transport of blueberry leaf infusion (optimized to yield the highest amount total phenolics) across this cell line for different incubation times. From the different compounds originally identified only rutin (9%), quercetin-3-glucoside (Q3glu), chlorogenic (7%) and neochlorogenic acids (23%) were transported across the epithelia cells, after 60, 90 and 120 min. From these compounds, neochlorogenic acid and Q3glu exhibit the highest transport rates (23 and 22%, respectively of the original concentration) while for rutin and chlorogenic acid the transport was lower than 10% of the original amount of compound. It was interesting to note that two metabolites, that were not originally present, caffeic and p-coumaric acids were detected after 30 and 60 min, respectively.

From this work it was possible to conclude that neochlorogenic acid and Q3glu are more efficiently transported through the CaCo-2 membrane and that this process resulted in the detection of some metabolites that were not originally present.