Food and food bioactive fighting chronic inflammation

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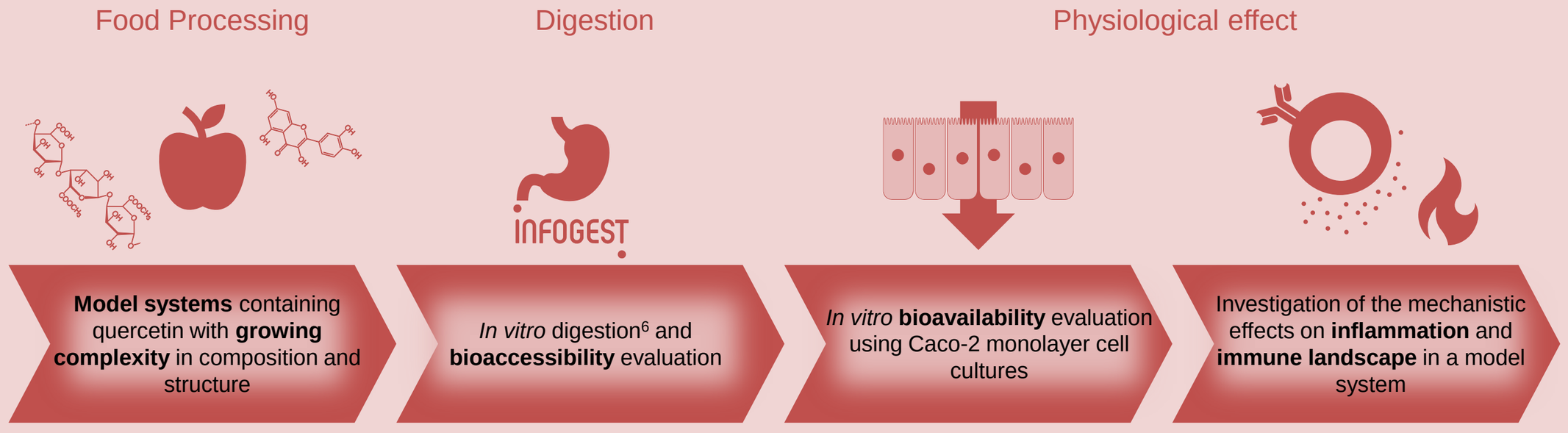
Background

- Chronic inflammation contributes to the onset of several diseases[1]. Inflammatory bowel disease (IBD) is a clear example of a condition generated by the establishment of chronic inflammation in the intestine[2].
- A diet rich in fruit and vegetables, by virtue of their content in bioactive compounds, was proved to exert health-promoting effects and to be protective against chronic inflammation[3,4].
- However, no linear cause-effect mechanism behind food bioactive compounds positive effect has been proved. A reason can be attributed to the fact that present studies don't take into consideration the complexity of the food matrix in relation to the fate of the bioactive compounds in terms of bioaccessibility and bioavailability[5].

Aims

Investigate the fate of bioactive compounds bioaccessibility and bioavailability as a function of food composition and structure. To this purpose, model systems with increasing complexity in terms of composition and structure, mimicking different fruit derivates will be considered.

Experimental approach



Expected activities

Activities	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A1) Literature review	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
A2) Preliminary tests	■	■	■																					
A3) Design of bioactive-containing model system				■	■	■	■																	
A4) *In vitro* digestion								■	■	■	■													
A5) Analysis of the bioaccessibility and bioavailability of bioactive compounds										■	■	■	■											
A6) Experimental model development														■	■	■								
A7) Immunologic analysis																	■	■	■	■				
A8) Company period																			■	■	■	■	■	■
A9) Paper writing and thesis development	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Expected results

- Gain knowledge on the fate of bioactives related to the food composition and structure;
- Development of technological strategies to optimize bioaccessibility and bioavailability of dietary bioactives in fruit derivates;
- Lay the foundations for the management of gut chronic inflammation through the diet;

References

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