Lemon Juice, Sesame Paste, and Autoclaving Influence Iron Bioavailability of Hummus: Assessment by an In Vitro Digestion/Caco-2 Cell Model

Nour Doumani*, Isabelle Severin, Laurence Dahbi, Elias Bou-Maroun, Maya Tueni, Nicolas Sok, Marie-Christine Chagnon, Jacqueline Maalouly and Philippe Cayot

Table of contents

Figure S1. Scheme of iron dialysis from digestat to buffer solution through a dialysis	
membrane	2
Figure S2. Scheme of the dual chamber system of iron uptake by the Caco-2 cells	2
Figure S3. Representation of Pearson's Correlation critical values' table	3
Table S1. Theoretical predominant form(s) of acids along the in vitro digestion at different	ent
pH values (2, 7, 8.5)	4

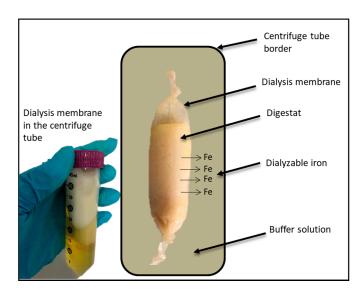


Figure S1. Scheme of iron dialysis from digestat to buffer solution through a dialysis membrane

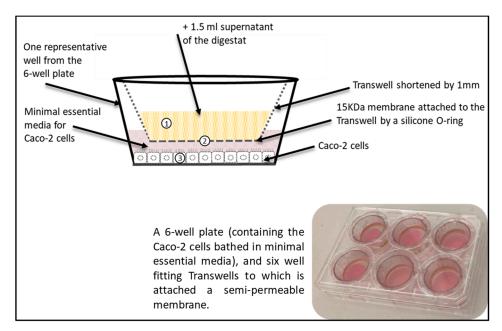


Figure S2. Scheme of the dual chamber system of iron uptake by the Caco-2 cells. 1) Iron in the digestapoured in the upper chamber formed by the Transwell, 2) iron diffusion to the lower chamber through a 15 KDa membrane attached to the Transwell by a silicone O-ring and 3) iron uptake by the Caco-2 cells, and eventually ferritin formation.

	Levels of Significance for a One-Tailed Test				
	.05	.025	.01	.005	
	Levels of	f Significance	e for a Two-1	Tailed Test	
df	.10	.05	.02	.01	
1	.988	.997	.9995	.9999	
2	.900	.950	.980	.990	
3	.805	.878	.934	.959	
4	.729	.811	.882	.917	
5	.669	.754	.833	.874	
6	.622	.707	.789	.834	
7	.582	.666	.750	.798	
8	.549	.632	.716	.765	
9	.521	.602	.685	.735	
10	.497	.576	.658	.708	
11	.476	.553	.634	.684	
12	.458	.532	.612	.661	
13	.441	.514	.592	.641	
14	.426	.497	.574	.623	
	.412	.482	.558	.606	
15	.400	.468	.542	.590	
16			.528	.575	
17	.389	.456		.561	
18	.378	.444	.516		
19	.369	.433	.503	.549	
20	.360	.423	.492	.537	
21	.352	.413	.482	.526	
22	.344	.404	.472	.515	
23	.337	.396	.462	.505	
24	.330	.388	.453	.496	
25	.323	.381	.445	.487	
26	.317	.374	.437	.479	
27	.311	.367	.430	.471	
28	.306	.361	.423	.463	
29	.301	.355	.416	.456	
30	.296	.349	.409	.449	
32	.287	.339	.397	.436	
34	.279	.329	.386	.424	
36	.271	.320	.376	.413	
38	.264	.312	.367	.403	
40	.257	.304	.358	.393	
			.350	.384	
42	.251	.297	.550	(continued	

Figure S3. Representation of Pearson's Correlation critical values' table [59].

Table S1. Theoretical predominant form(s) of acids along the in vitro digestion at different pH values (2, 7, 8.5).

	pH 2 (gastric phase)	pH 7 (intestinal phase)	pH 8.5 (end of intestinal phase)
Citric	0	0	0
<u>acid</u> ^[72]	но 🕊	-o <i>-</i> 4/	-o_4/
pKa1 3.1	но	-0 OH	HO 0
pKa2	0	0	O
4.7	но 🕊		
pKa3 6.4	HO OH		
Malic acid ^[73]	О	°	° -
pKa1 3.51	но	но —	но — О
pKa2 5.03	OH	0	\
	но он		
Ascorbic acid ^[74]	но ОН	HO OH	HO OH
pKa1	_/		
4.17	но он	O OH	O OH
pKa2		0 011	0 011
11.57			