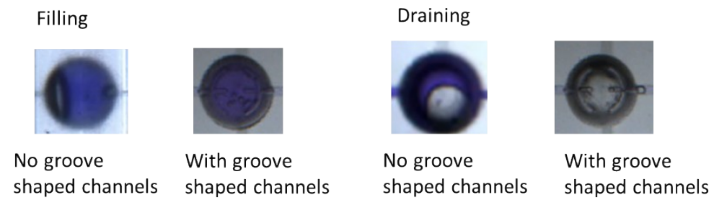
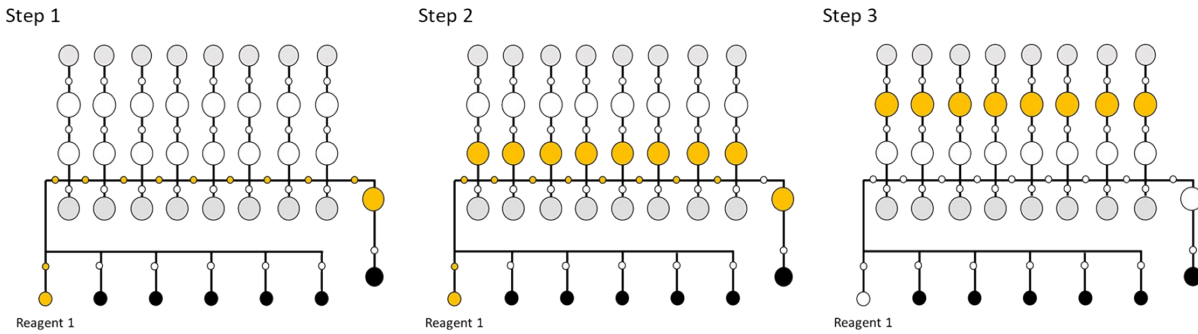


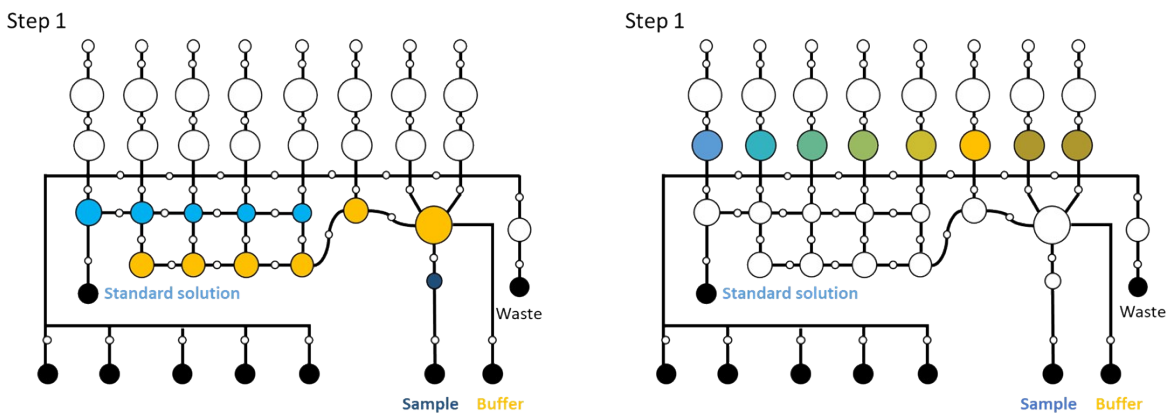
S1 : Comparison between 8  $\mu$ L chambers with and without a groove shaped channel.



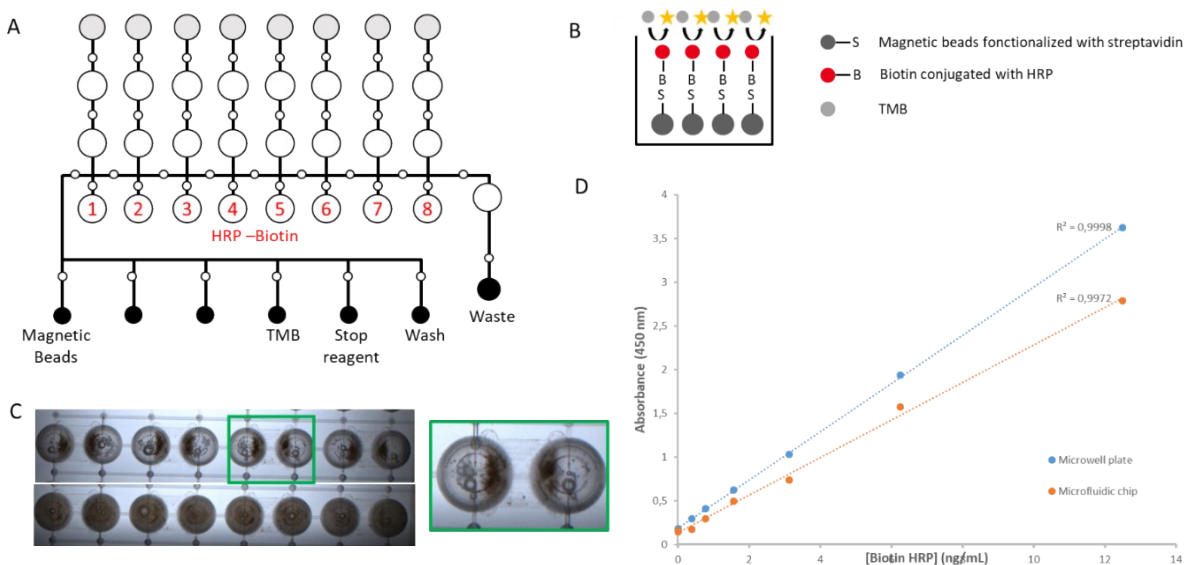
S2 : reagent calibration and transfer



S3 : dilutions working principle



S4 : microfluidic architecture for the protocol using streptavidin bead and HRP –biotin



S5 : Comparison of gluten quantification (ppm) between the reference kit and the microfluidic chip for the quantification of spiked samples.

Millet			Muesli			Sunflower paste		
Reference kit	Microfluidic chip	% error	Reference kit	Microfluidic chip	% error	Reference kit	Microfluidic chip	% error
1,4	3,0	123	1,7	2,9	90	0,2	3,6	253
12,0	11,8	2	15,1	12,7	20	13,8	12,4	12
18,2	21,7	20	21,1	21,1	0	18,8	17,3	8
26,8	32,4	21	34,0	36,3	8	26,9	30,6	14