Supporting Information

Almond-Like Aroma Formation of Acid Whey by *Ischnoderma benzoinum* Fermentation: Potential Application in Novel Beverage Development

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Table S1 Mean values and standard deviation of quantitative descriptive analysis (QDA) of orthonasal perception of unfermented acid whey, acid whey fermented with *I. benzoinum*, and the UHT-treated fermented acid whey and retronasal perception of the unfermented acid whey and fermented acid whey with *I. benzoinum* (n=10).

Orthonasal					
Acid whey		Acid whey fermented		Acid whey fermented UHT	
Attribute	Intensity	Attribute	Intensity	Attribute	Intensity
sourish	3.0 ± 0.4	sourish	1.3 ± 0.4	sourish	1.3 ± 0.9
fruity	0.6 ± 0.4	fruity	1.2 ± 0.4	fruity	0.5 ± 0.5
almond-like	0.5 ± 0.3	almond-like	2.8 ± 0.8	almond-like	1.7 ± 0.7
sweetish	1.0 ± 0.7	sweetish	2.2 ± 0.7	sweetish	1.1 ± 0.9
solvent-like	0.0 ± 0.0	solvent-like	0.8 ± 0.6	solvent-like	0.2 ± 0.3
fungal	0.6 ± 0.4	fungal	0.2 ± 0.3	fungal	1.0 ± 0.7
malty	0.4 ± 0.4	malty	1.3 ± 0.9	malty	1.6 ± 1.4
fermented	1.4 ± 0.7	fermented	1.2 ± 0.5	fermented	1.2 ± 0.8
musty	0.5 ± 0.7	musty	0.7 ± 0.6	musty	0.8 ± 0.6
umami	0.5 ± 0.5	umami	0.1 ± 0.3	umami	0.2 ± 0.1
cereal-like	0.2 ± 0.3	cereal-like	0.5 ± 0.5	cereal-like	1.2 ± 0.7
Retronasal					
Acid whey		Acid whey fermented UHT			
Attribute	Intensity	Attribute	Intensity		
sour	2.4 ± 0.9	sour	2.1 ± 1.1		
fruity	0.5 ± 0.3	fruity	1.0 ± 0.6		
almond-like	0.7 ± 0.2	almond-like	2.3 ± 0.6		

sweet	1.0 ± 0.8	sweet	0.9 ± 0.3
soapy	0.4 ± 0.1	soapy	0.8 ± 0.2
fatty	0.8 ± 1.2	fatty	0.6 ± 1.0
fungal	0.0 ± 0.0	fungal	0.5 ± 0.6
butter-like	1.5 ± 0.4	butter-like	0.7 ± 0.2
fermented	0.6 ± 1.2	fermented	1.2 ± 1.0
musty	0.2 ± 0.4	musty	0.3 ± 0.6
umami	0.3 ± 0.1	umami	0.5 ± 0.3
cereal-like	0.5 ± 0.7	cereal-like	0.5 ± 0.3
bitter	0.2 ± 0.3	bitter	0.5 ± 0.7
salty	0.5 ± 0.7	salty	0.5 ± 0.4

Table S2 Fatty Acid Composition of Acid Whey and Acid Whey Fermented with *Ischnoderma benzoinum*

	Acid whey [%]	Acid whey fermented with *I. benzoinum* [%]
C4:0	2.7 ± 0.5	2.0 ± 1.5
C6:0	0.7 ± 0.1	0.2 ± 0.03
C8:0	0.5 ± 0.1	0.3 ± 0.1
C10:0	1.1 ± 0.1	0.3 ± 0.1
C12:0	1.9 ± 0.1	1.3 ± 0.4
C13:0	0.2 ± 0.1	0.2 ± 0.1
C14:0	5.8 ± 0.4	2.4 ± 0.2
C14:1	0.3 ± 0.1	0.4 ± 0.3

C15:0	0.9 ± 0.1	0.8 ± 0.1
C16:0	28.5 ± 1.9	32.3 ± 3.2
C16:1	0.3 ± 0.1	-
C17:0	0.9 ± 0.08	1.0 ± 0.1
C18:0	1.5 ± 0.3	22.3 ± 2.8
C18:1n9c	1.5 ± 0.3	7.3 ± 1.9
C18:1n9t	1.5 ± 0.3	0.2 ± 0.1
C18:2n6c	2.6 ± 0.8	5.8 ± 0.3
C18:3n3	0.4 ± 0.1	0.5 ± 0.3
C20:0	0.9 ±0.1	1.4 ± 0.2
C20:1	0.2 ± 0.1	-
C21:0	0.7 ± 0.1	0.94 ± 0.3
C22:0	5.3 ± 0.9	7.08 ± 0.83
C22:2	0.7 ± 0.3	-
C23:0	4.4 ± 0.5	5.7 ± 0.5
C24:0	4.2 ± 0.6	7.6 ± 0.3

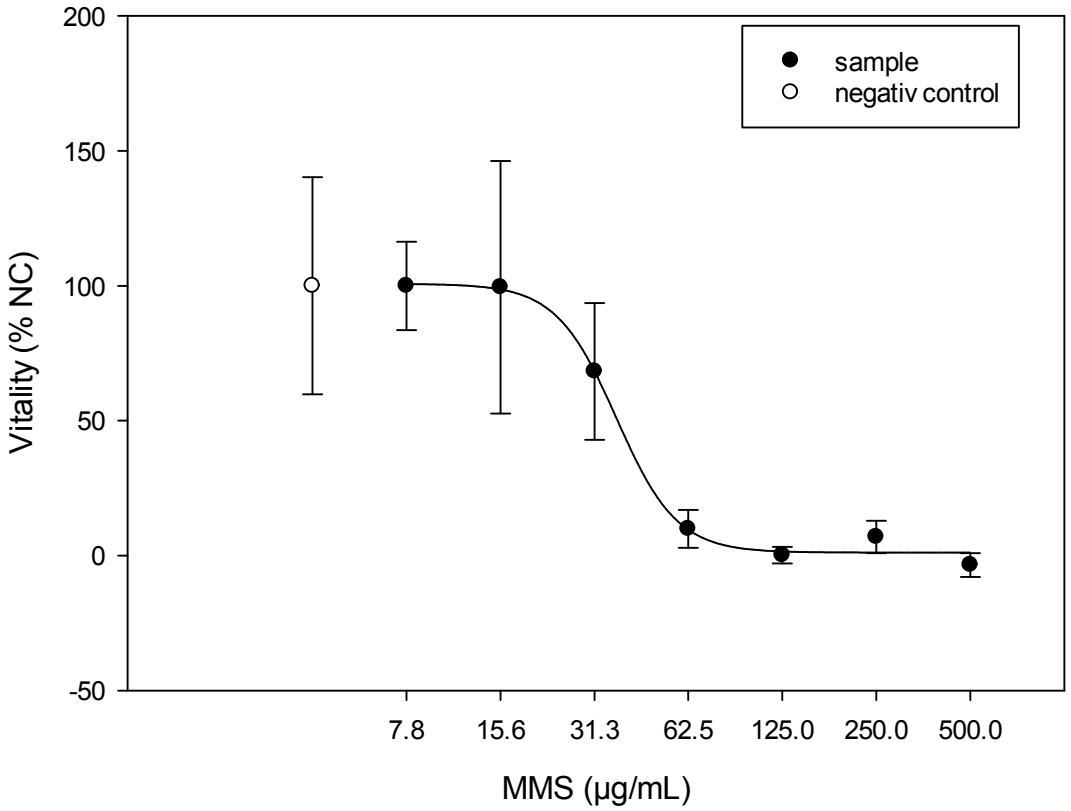
200
150
100
50
0
-50
Vitality (% NC)
sample
negativ control
7.8
15.6
31.3
62.5
125.0
250.0
500.0
MMS (µg/mL)

Figure S3