

**Relationship of thermal treatment and  
antioxidant capacity in cooked foods**

**SUPPLEMENTAL INFORMATION**

**Table S1.** Samples: foods and applied thermal processing.

Food Group	Food	Cooking Method
Cereals	Bread	Fried
Cereals	Bread	Toasted
Cereals	Penne	Boiled
Cereals	Rice	Boiled
Egg	Egg	Boiled
Egg	Egg	Grilled
Egg	Egg	Fried
Egg	Egg	Roasted
Fish	Cod fish	Boiled
Fish	Cod fish	Grilled
Fish	Cod fish	Fried
Fish	Salmon	Grilled
Fish	Salmon	Fried
Fish	Salmon	Roasted
Fruits	Apple	Grilled
Fruits	Apple	Fried
Fruits	Apple	Roasted
Fruits	Banana	Grilled
Fruits	Banana	Roasted
Legumes	Beans (Kidney)	Boiled
Legumes	Beans (Kidney)	Roasted
Legumes	Lentils	Boiled
Legumes	Lentils	Grilled
Legumes	Lentils	Roasted
Meat	Beef	Boiled
Meat	Beef	Grilled
Meat	Beef	Fried
Meat	Beef	Roasted
Meat	Chicken	Boiled
Meat	Chicken	Grilled
Meat	Chicken	Fried
Meat	Chicken	Roasted
Meat	Lamb	Boiled
Meat	Lamb	Grilled
Meat	Lamb	Fried
Meat	Lamb	Roasted
Meat	Pork	Boiled
Meat	Pork	Grilled
Meat	Pork	Fried
Meat	Pork	Roasted
Tubers	Potatoe	Boiled
Tubers	Potatoe	Grilled
Tubers	Potatoe	Fried
Vegetables	Capsicum	Boiled
Vegetables	Capsicum	Grilled
Vegetables	Capsicum	Fried
Vegetables	Capsicum	Roasted
Vegetables	Carrot	Boiled

Food Group	Food	Cooking Method
Vegetables	Carrot	Grilled
Vegetables	Carrot	Fried
Vegetables	Carrot	Roasted
Vegetables	Cauliflower	Boiled
Vegetables	Cauliflower	Grilled
Vegetables	Cauliflower	Fried
Vegetables	Cauliflower	Roasted
Vegetables	Onion	Boiled
Vegetables	Onion	Grilled
Vegetables	Onion	Fried
Vegetables	Onion	Roasted
Vegetables	Tomatoe	Boiled
Vegetables	Tomatoe	Fried
Vegetables	Tomatoe	Roasted

**Table S2.** Correlations between heat damage markers (furosine, HMF and furfural), and the results of antioxidant capacity measured with Folin-Ciocalteu, FRAP and DPPH after digestion and in vitro fermentation processes, depending on the different foods groups

CEREALS	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	1935	1405	.41 [-.29, .83]	.07 [-.59, .67]	.09 [-.57, .68]
Folin-Ciocalteu Fermentatio	18638	5744	-.49 [-.85, .21]	.49 [-.20, .86]	.42 [-.29, .83]
FRAP Digestion	4.12	4.29	.34 [-.37, .80]	-.25 [-.76, .45]	-.28 [-.77, .43]
FRAP Fermentation	105	17.8	-.11 [-.69, .56]	.52 [-.16, .87]	.37 [-.34, .81]
DPPH Digestion	4.98	5.16	-.64* [-.91, -.02]	-.16 [-.72, .52]	-.04 [-.65, .60]
DPPH Fermentation	104	23.4	.12 [-.55, .70]	-.25 [-.76, .45]	-.27 [-.77, .43]
EGGS	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	2542	1664	.65 [-.83, .99]	-.66 [-.99, .82]	.83 [-.65, 1.00]
Folin-Ciocalteu Fermentatio	49849	4956	.66 [-.82, .99]	-.51 [-.99, .88]	.36 [-.92, .98]
FRAP Digestion	5.90	0.83	.41 [-.91, .98]	-.63 [-.99, .84]	.47 [-.90, .99]
FRAP Fermentation	282	12.0	.14 [-.95, .97]	.13 [-.95, .97]	-.34 [-.98, .92]
DPPH Digestion	9.99	0.81	-.04 [-.96, .96]	.02 [-.96, .96]	.77 [-.74, .99]
DPPH Fermentation	235	70.6	.36 [-.92, .98]	-.41 [-.98, .91]	.93 [-.31, 1.00]
FISH	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	2626	825	-.02 [-.82, .80]	.32 [-.67, .90]	-.53 [-.94, .49]
Folin-Ciocalteu Fermentatio	59530	22284	-.09 [-.84, .78]	.13 [-.76, .85]	-.36 [-.91, .64]
FRAP Digestion	2.51	0.64	.43 [-.59, .92]	.44 [-.58, .92]	.12 [-.77, .85]
FRAP Fermentation	319	130	-.09 [-.84, .78]	.13 [-.76, .85]	-.37 [-.91, .63]
DPPH Digestion	14.2	8.95	.21 [-.73, .87]	.22 [-.72, .88]	.07 [-.79, .83]
DPPH Fermentation	214	36.7	-.26 [-.88, .70]	-.32 [-.90, .67]	-.12 [-.85, .76]
FRUITS	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	598	512	-.57 [-.99, .87]	-.64 [-.99, .84]	-.28 [-.98, .93]
Folin-Ciocalteu Fermentatio	31752	8985	.64 [-.83, .99]	.63 [-.84, .99]	.87 [-.56, 1.00]
FRAP Digestion	5.81	3.81	-.55 [-.99, .87]	-.20 [-.97, .94]	.24 [-.94, .98]

FRUITS	M	SD	FUROSINE	HMF	FURFURAL
FRAP Fermentation	126	39.2	-.09 [-.97, .95]	-.52 [-.99, .88]	-.96* [-1.00, .04]
DPPH Digestion	22.2	33.5	-.66 [-.99, .82]	-.63 [-.99, .84]	-.43 [-.98, .90]
DPPH Fermentation	144	24.3	-.00 [-.96, .96]	-.99** [-1.00, -.69]	-.53 [-.99, .88]
LEGUMES	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	1803	1532	.46 [-.71, .95]	.21 [-.83, .92]	-.33 [-.94, .78]
Folin-Ciocalteu Fermentatio	43519	19159	.77 [-.36, .98]	-.23 [-.92, .82]	-.21 [-.92, .83]
FRAP Digestion	6.95	4.52	-.39 [-.95, .75]	.17 [-.84, .91]	-.89* [-.99, -.05]
FRAP Fermentation	240	101	.72 [-.44, .98]	-.16 [-.91, .84]	-.33 [-.94, .78]
DPPH Digestion	38.7	5.21	.06 [-.87, .89]	-.17 [-.91, .84]	-.78 [-.98, .34]
DPPH Fermentation	187	56.3	-.84 [-.99, .16]	-.01 [-.88, .88]	-.70 [-.98, .48]
MEAT	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	2616	998	.00 [-.51, .52]	-.02 [-.53, .50]	-.10 [-.59, .43]
Folin-Ciocalteu Fermentatio	49297	13682	-.05 [-.55, .48]	-.12 [-.60, .42]	-.12 [-.60, .42]
FRAP Digestion	3.05	0.68	-.58* [-.84, -.10]	.06 [-.47, .56]	-.00 [-.51, .51]
FRAP Fermentation	278	73.7	-.17 [-.63, .37]	-.23 [-.67, .32]	-.18 [-.64, .36]
DPPH Digestion	14.6	6.10	.48 [-.04, .80]	.31 [-.24, .71]	.22 [-.33, .66]
DPPH Fermentation	481.7	288	-.42 [-.77, .12]	-.38 [-.75, .16]	-.18 [-.63, .37]
VEGETABLES	M	SD	FUROSINE	HMF	FURFURAL
Folin-Ciocalteu Digestion	461	394	.80** [.52, .92]	.80** [.53, .93]	-.02 [-.49, .47]
Folin-Ciocalteu Fermentatio	27727	13643	-.08 [-.54, .42]	-.15 [-.59, .36]	-.22 [-.64, .29]
FRAP Digestion	5.20	5.70	.80** [.52, .92]	.74** [.40, .90]	-.04 [-.51, .45]
FRAP Fermentation	149	66.0	-.04 [-.51, .45]	-.08 [-.54, .42]	-.14 [-.58, .36]
DPPH Digestion	17.4	20.3	.84** [.60, .94]	.75** [.42, .90]	-.03 [-.50, .46]
DPPH Fermentation	136.3	51.4	-.22 [-.63, .29]	-.16 [-.60, .34]	-.08 [-.54, .42]

Note. SD is used to represent standard deviation.. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). \* indicates  $p < .05$ . \*\* indicates  $p < .01$ .