

Supplementary information: Table 1 Human intervention studies on quercetin supplementation<sup>1</sup>

Dose per day <sup>2</sup>	Days	No. of subjects per group <sup>3</sup>	Biomarkers significantly affected	Biomarkers not significantly affected	Ref
500 mg x 2	30	30 men with chronic pelvic pain syndrome	Improvement in NIH prostatitis symptom score		1
500 mg x 2	28	22 interstitial cystitis patients	Improvement in cystitis symptoms	No side effects or adverse reactions	2
250 mg x 4	21	63		Blood antioxidant capacity or plasma lipid during ultramarathon	3
150 mg	14	12		Serum uric acid, plasma $\alpha$ - and $\gamma$ -tocopherols, oxidized LDL, tumour necrosis factor- $\alpha$ , serum lipids and lipoproteins, plasma antioxidant capacity, body composition, or resting energy expenditure supplementation	4
150 mg	42	20 with cardiovascular risk phenotype	Gene expression of <i>C1GALT1</i> , O-glycan biosynthesis; <i>GM2A</i> , glycolipid catabolism; <i>HDGF</i> , cell proliferation; <i>SERPINB9</i> , apoptosis	Gene expression of the other target genes	5
150 mg	42	96	Decrease of systolic blood pressure, serum HDL, plasma concentrations of atherogenic oxidised LDL	Total cholesterol, TAG, LDL/HDL, TAG/HDL, TNF- $\alpha$ , C-reactive protein, nutritional status, blood parameters of liver and kidney function, haematology or serum electrolytes	6
100 mg	70	49	Increase of HDL; decrease of serum total cholesterol and LDL; decrease of systolic and diastolic blood pressure, blood glucose	Inflammatory IL-6, sVCAM-1	7
30 mg	14	10	Improved oxidative resistance of LDL	Plasma triglycerides, HDL or LDL	8
30 mg	14	4	Decrease in TIMP-1 plasma protein and lymphocyte mRNA	TIMP-2 and matrix metalloprotein-2 lymphocyte mRNA or plasma protein	9
500 mg quercetin-3-O-glucoside	7	15		Repeated-sprint performance, percent fatigue decrement, blood xanthine oxidase activity, IL-6 or uric acid	10

<sup>1</sup> Some of the entries were derived from <sup>11</sup>

<sup>2</sup> Quercetin aglycone, unless otherwise stated.

<sup>3</sup> Healthy subjects, unless otherwise stated.

Abbreviation: NIH, national institution of health; C1GALT1, Core 1 synthase, glycoprotein-N-acetylgalactosamine 3-beta-galactosyltransferase; GM2A, ganglioside monosialic 2 activator; HDGF, hepatoma-derived growth factor; SERPINB9, Serpin B9; IL-6, Interleukin 6; sVCAM-1, soluble vascular cell adhesion molecule 1; TIMP-1, tissue inhibitor of metalloproteinase -1; TIMP-2, tissue inhibitor of metalloproteinase-2.

Supplementary information: Table 2 Human intervention studies on dietary quercetin<sup>1</sup>

Dose per day <sup>2</sup>	Quercetin equivalent <sup>3</sup>	Days	No. of subjects per group <sup>4</sup>	Biomarkers significantly affected	Biomarkers not significantly affected	Ref
76-110 mg quercetin and other flavonols from 400 g onion (with tomato sauce) + 6 cups of tea	1200-1800 mg with other	14	10 type 2 diabetic patients	Decrease oxidative damage to lymphocyte DNA	Fasting plasma glucose, fructosamine, vitamin C, carotenoids, $\alpha$ -tocopherol, urate, albumin and bilirubin	12
200 g onion	1500 mg	1	6 female	Increase resistance of lymphocyte DNA to strand breakage, decrease in urinary 8-hydroxy-2'-deoxyguanosine	Urinary malondialdehyde	13
21 mg dietary quercetin, 9 mg dietary kaempferol	350 mg with other	1	19 female	Increase in erythrocyte superoxide dismutase activity, decrease in lymphocyte DNA damage (tail moment)	Plasma $\alpha$ -tocopherol or $\beta$ -carotene	14
51 mg quercetin from 4.3 g onion extract	850 mg	30	23 male with oral maltose load induced postprandial endothelial dysfunction	Increase postprandial flow-mediated vasodilation (FMD) responses	Fasting FMD systemic or forearm hemodynamic	15
100 mg quercetin + 128 mg other flavonoids, onion peel extract	1660 mg with other	14	12 female	Decrease total cholesterol level, LDL cholesterol and atherogenic index	Erythrocyte antioxidant enzymes, lipid peroxidation markers, plasma antioxidant vitamin (retinol, tocopherol, carotenoids, coenzyme Q10), <i>ex vivo</i> H <sub>2</sub> O <sub>2</sub> -provoked oxidative DNA damage	16

Some of the entries were derived from <sup>11</sup>

<sup>2</sup> Quercetin aglycone, unless otherwise stated.

<sup>3</sup> Calculation is based on 16.6-fold since 166 mg quercetin aglycones from supplements would be comparable to 10 mg quercetin aglycone equivalents from onions according to this study.

<sup>4</sup> Healthy subjects, unless otherwise stated.

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