

**Supplementary Table 1. Effect of berry intervention on markers of oxidative stress, inflammation, vascular function markers, and other related parameters in the context of MetS**

Berry	Oxidative Stress markers	Inflammatory/ immune response markers	Vascular function markers	Other markers	Reference and Country
Blueberry			= FMD, PWV		Curtis et al., 2022
			= AIX		(UK) [32]
			↓ AIX@75		Curtis et al., 2019
			↑↑ FMD, cGMP		(UK) [33]
		↓↓↓ IL-6			Sobolev et al., 2019 (Italy) [34]
		↑↑ TGF-β			
		= IL-1β, TNF-α, IL-10, IL-4			
	↓ free radical levels in the whole blood and isolated monocytes	↓ TNF-α, TLR4, IL-6, GMCSF = IFN-α, IL12p70, FLT3L		↑ myeloid dendritic cells	Nair et al., 2017 (USA) [5]

↑↑ RHI

Stull et al., 2015  
(USA) [35]

= CRP, IL-6

= sICAM-1, sVCAM-1

= adiponectin

Basu et al., 2010  
(USA) [36]

↓↓ ox-LDL, MDA, HNE

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## Bilberry

↓ hs-CRP, IL-12, IS  
= IL-6

↓ expression of MMP  
and CCR2 transcripts  
= adiponectin, leptin

Kolehmainen et al.,  
2012  
(Finland) [37]

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## Cranberry

↓↓ AOPP

= CRP, TNF- $\alpha$ ,

↓↓↓ homocysteine

↑↑ adiponectin

Simao et al.,2013

↓ lipo-peroxidation

IL-1, IL-6

↑ folic acid

(Brazil) [38]

= ox-LDL

= AIX, sICAM-1,  
sVCAM-1, E-selectin,  
NO<sub>x</sub>, MAP

= uric acid, HR

Ruel et al., 2013  
(Canada) [39]

↓ ox-LDL, MDA, HNE

= CRP, IL-6

↑ plasma antioxidant  
capacity

Basu et al., 2011  
(USA) [40]

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## Raspberry

↓ TNF- $\alpha$ , IL-6, CD34/KDR  
cells

↑ CD34/CD133,  
CD34/CD117 cells

= CRP

↓ sICAM-1, radial  
AIX

= sVCAM-1

↑ adiponectin,  
= HR

Jeong et al., 2016  
(Korea) [41]

↓ IL-6, TNF- $\alpha$

= CRP

↑ FMD

= sICAM, sVCAM

↑ adiponectin

Jeong et al., 2014  
(Korea) [42]

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## Chokeberry

	↓ CRP °	= HR, hematological parameters, hepatic profile	Tasic et al., 2021 (Poland) [43]
		↓ platelet aggregation and coagulation	Sikora et al., 2012 (Poland) [44]
	↓↓↓ CAT ↓↓ ET-1, TBARS ↑↑↑ SOD = GSH-Px	= CRP	Broncel et al., 2010 (Poland) [45]
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Strawberry		↓ sVCAM-1, = sICAM-1	Basu et al., 2010 (USA) [46]
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Berry mix	= 8-isoprostanes	= serum leptin, leptin/BMI and resistin/BMI	Puupponen-Pimiä et al., 2013 (Finland) [47]

° In women with MetS only (group: fMetS).

Legend: The arrow ↑ or ↓ denotes significant increase or decrease, respectively. 1 arrow: significantly different at  $p < 0.05$ ; 2 arrows: significantly different at  $p < 0.01$ ; 3 arrows: significantly different at  $p < 0.001$ ; = : no effect;; AIX: augmentation index; AIX@75: augmentation index normalized to 75 beats per minute; AOPP: advanced oxidation protein

products; BMI: body mass index; CAT: catalase; CCR2: chemokine (C-C motif) receptor 2; cGMP: cyclic guanosine monophosphate; CRP: C-reactive protein; ET-1: endothelin-1; FLT3L: FMS-like tyrosine kinase 3 ligand; FMD: flow mediated dilation; GMCSF: Granulocyte-macrophage colony-stimulating factor; GSH-Px: glutathione peroxidase; HNE: 4-hydroxynonenal; HR: heart rate; hs-CRP: high sensitive C-reactive protein; IS: Inflammation Score (calculated based on the values of hsCRP, IL-6, IL-12, and LPS); IL-1 $\beta$ : interleukin 1 $\beta$ ; IL-4: interleukin 4; IL-6: interleukin 6; IL-10: interleukin 10; IL-12: interleukin 12; IL-12p70: interleukin 12 subunit p70; IFN- $\alpha$ : Interferon-alpha; MAP: mean arterial pressure; MDA: Malondialdehyde; MMD: monocyte to macrophage differentiation associated; NOx: total nitrates/nitrites; ox-LDL: oxidized low density lipoprotein; PWV: pulse wave velocity; RHI: reactive hyperemia index; sICAM: soluble intercellular Adhesion Molecule 1; SOD: superoxide dismutase; sVCAM: soluble vascular cell adhesion molecule 1; TBARS: thiobarbituric acid reactive substances; TGF- $\beta$ : transforming growth factor- $\beta$ ; TLR4: Toll-like receptor 4; TNF- $\alpha$ : tumor necrosis factor-alpha.