

Table 4.12 Studies on coffee drinking and immunosuppression in exposed humans

Tissue	Cell type	End-points	Test	Description of exposure ^a and controls	Response ^b /significance	Comments	Reference
Serum	-	77 Immune/inflammatory markers	Luminex bead-based assays	Cross-sectional study, 1728 older US non-Hispanic whites	Coffee drinkers (> 2.5 cups/d) vs non-drinkers IFN γ OR, 0.35 (95% CI: 0.16–0.75) fractalkine/CX3CL1 OR, 0.25 (95% CI: 0.10–0.64) MIP-1 β /CCL4 OR, 0.48 (95% CI: 0.24–0.99) FGF-2 OR, 0.62 (95% CI: 0.28–1.38)		Loftfield et al. (2015)
Blood	Lymphocytes, monocytes	Counts (FACS) of T, B, and natural killer cells, chemotaxis monocyte, lymphoblast transformation	Ex vivo mitogen (lectin) stimulation; chemotaxis after stimulation with formyl-met-leu-phe	Intervention, crossover, 15 (9M, 6F) subjects (19–49y); coffee (5 cups/d) vs abstinence; 5 wks	Coffee vs abstinence Transformation –16 to –35% [$P < 0.005$] Not significant: Cell counts Total T-cells, Suppressor T, Helper T, B-cells 0% Natural killer cells +50% [$P < 0.05$] Chemotaxis +25 to +50% [$P < 0.05$]	Exploratory study	Melamed et al. (1990)

^a unless otherwise specified, the term coffee is used to mean brewed, caffeinated coffee

^b +, positive; –, negative; differences: coffee vs control

CI, confidence interval; F, female; FGF, fibroblast growth factor; HCV, hepatitis C virus; IFN γ , interferon gamma; M, male; MIP- β , macrophage inflammatory protein; NR, not reported; OR, odds ratio; PEG-IFN, peginterferon alfa-2a; RIA, radioimmunoassay; vs, versus

References

- Loftfield E, Shiels MS, Graubard BI, Katki HA, Chaturvedi AK, Trabert B, et al. (2015). Associations of Coffee Drinking with Systemic Immune and Inflammatory Markers. *Cancer Epidemiol Biomarkers Prev.* 24(7):1052–60. <http://dx.doi.org/10.1158/1055-9965.EPI-15-0038-T> PMID:25999212
- Melamed I, Kark JD, Spierer Z (1990). Coffee and the immune system. *Int J Immunopharmacol.* 12(1):129–34. [http://dx.doi.org/10.1016/0192-0561\(90\)90076-Y](http://dx.doi.org/10.1016/0192-0561(90)90076-Y) PMID:2303315