

Table 1A. Selected papers investigating the relationship between leptin (L) and the immune system demonstrating the influence of L on induction, maintenance and clinical manifestations of some autoimmune conditions

Year	Country/ Ref. number	Main findings	Type of study	Disease/Condition	Leptin effect on the immune system
2007	UK ⁷⁵	Plasma L was positively correlated with metabolic, inflammatory and risk factors for CVD	3640 men aged 60–79 years	CVD	L causes inflammation
2006	Israel ⁷⁶	L induces significant suppression of human hepatocellular carcinoma	Athymic nude mice		L enhances natural killer cells activity
2007	Italy ⁷⁷	L acts as a negative signal for the proliferation of human, naturally occurring Foxp3 ⁺ CD4 ⁺ CD25 ⁺ regulatory T (T _{reg}) cells	Human T _{reg} cells	Autoimmune diseases	L can modulate the hyporesponsiveness and proliferation of T _{reg} cells both <i>in vitro</i> and <i>in vivo</i>
2005	Brazil ⁷⁸	L may be involved in some of the cellular defects observed in common variable immunodeficiency	38 patients	Common variable immunodeficiency	L causes proliferative response of lymphocytes, IL-2 and IL-4 production
2006	Czech Republic ⁷⁹	Corticosterone does not stimulate leptin production during AA	Rats	AA an experimental model of human RA	The suppression of L may be a consequence of permanent activation of NO and IL-1 β .
2009	USA ⁸⁰	L induces CRP expression in human coronary artery endothelial cells via activation of the leptin receptor	Human coronary artery endothelial cells	Pro-atherogenic effects of L	Induction of CRP expression
2010	Canada ⁸¹	Action of L on microglia is that of a modulator rather than a direct trigger of inflammation	Microglia cultures prepared from rat brain	Microglial function in inflammation	L induces production of IL-1 β , TNF- α and chemokines such as CINC-1 and MIP-2
2009	South Korea ⁸²	L, IL-6 and TNF- α mRNA expression of PMBCs from patients with AS were significantly higher than controls	Twenty patients with active AS and 20 healthy controls	AS	Higher L, IL-6, and TNF- α mRNA expressions in patients with AS

PBMCs: peripheral blood mononuclear cells, ITP: idiopathic thrombocytopenic purpura, CVD: cardiovascular disease, AA: adjuvant arthritis, AS: ankylosing spondylitis, RA: rheumatoid arthritis, MS: multiple sclerosis, CRP: C reactive protein.