**Figure 1. Neopterin is involved in immune activation and is a marker of disease activity in several inflammatory conditions.**

Neopterin, a pteridine derivative produced by activated macrophages in response to stimulation by interferon-γ, is a marker of immune activation. In vivo-increased neopterin excretion was demonstrated in subjects affected by viral infections as well as intracellular bacterial or protozoal infections. Circulating neopterin is increased in patients with rheumatoid arthritis and systemic lupus erythematosus and in acute cellular graft rejection or graft-vs.-host disease. Elevated neopterin concentrations have been also reported in patients with acquired immunodeficiency syndrome (AIDS), and in cancer. In these conditions, neopterin concentrations have been shown to correlate directly with disease activity. Neopterin has been also shown to be a predictor of clinical outcomes in chronic and acute forms of ischaemic heart disease.

Abbreviations: IFN-, interferon gamma; IL-1, Interleukin-1; RA, rheumatoid arthritis; ROS, Reactive Oxygen Species; SLE, systemic lupus erythematosus; Th1cell, T helper lymphocyte; TNF-, tumor necrosis factor-alpha.