

## Abstract

# Assessment of Antioxidant and Cytotoxic Activity of Known Antioxidants Compared to Neopterin <sup>†</sup>

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<sup>†</sup> Presented at the 2nd International Conference on Natural Products for Cancer Prevention and Therapy, Kayseri, Turkey, 8–11 November 2017.

Published: 15 November 2017

**Abstract:** Free radicals and other reactive oxygen species (ROS) are constantly formed in the human body. Free-radical mechanisms have been implicated in the pathology of several human diseases. Free radicals are generated physiologically during immune activation. Neopterin, an early marker of immune activation is released from monocyte-macrophages with the induction of interferon-gamma. Its biological levels are known to be increased in different types of pathologies including cancer. Neopterin is also known to be related with oxidative stress. In this study, the antioxidant effect of neopterin and silymarin, melatonin and homocystein was evaluated by NO, SO, and DPPH radicals scavenging assays. Possible cytotoxic effects of the compounds were evaluated in 3 different cell lines by MTT and LDH assays. According to the results all the compounds have the radical scavenging activities. Therefore, none of them have a significant cytotoxic potential. However, only neopterin has a significant proliferative effect at very high concentrations. The results should be confirmed and reevaluated by *in vivo* and *in vitro* experiments.

**Keywords:** neopterin; silymarin; melatonin; homocysteine; antioxidant; cytotoxicity



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