

1<sup>st</sup> Luso-Spanish Congress  
on Free Radicals

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6<sup>th</sup> Portuguese Congress on Free Radicals  
in Chemistry, Biology  
and Medicine



A Joint Meeting of the Portuguese Society of Biochemistry,  
the Portuguese Society of Chemistry and the Spanish Group  
of Free Radicals



Grupo  
Español  
de Radicales Libres

SOCIEDADE PORTUGUESA DE QUÍMICA

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**BOOK OF ABSTRACTS**

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*December 4-6, 2003  
Coimbra Portugal*

A Joint Meeting of the Portuguese Society of Biochemistry, the Portuguese Society of Chemistry and the Spanish Group of Free Radicals

A Congress to explore and potentiate new interactions among researchers and strengthen expertise and capabilities of Portuguese and Spanish communities in the area of free radicals

**Protective activity of 2-styrylchromone derivatives against the pro-oxidant hepatotoxic effect elicited by *tert*-butylhydroperoxide in freshly isolated rat hepatocytes.**

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The best described property of almost every group of flavonoids, especially the hydroxylated derivatives, is their capacity to act as antioxidants. There is, indeed, a widely accepted view that the positive health effects of flavonoids can be attributed to their antioxidant activity. Taking into account that oxidative stress is a main cause of liver toxicity induced by several hepatotoxicants, agents with the ability to protect the liver against reactive pro-oxidant species may be therapeutically useful. Thus, the aim of the present study was to evaluate the hypothetical protective effect of six new synthetic polyhydroxylated flavonoids (2-styrylchromones derivatives) against the pro-oxidant induced hepatotoxicity exerted by *tert*-butylhydroperoxide (t-BHP) in freshly isolated rat hepatocytes. Quercetin was tested in the same experimental conditions as a positive control. The results obtained in this study showed that the tested compounds exhibit *in vitro* protective activity against *tert*-butylhydroperoxide-induced hepatotoxicity (1.0 mM, 30 min.). Three of the tested compounds showed to prevent t-BHP-induced glutathione depletion, lipid peroxidation and cell death in freshly isolated rat hepatocytes with a similar potency when compared to quercetin, at the concentrations of 3.125, 12.5, 25 and 50  $\mu$ M.

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