

P147

## **Increased the cyclooxygenase-2 expression by chicken ovalbumin in murine macrophages**

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Chicken ovalbumin is one of the major egg white allergens that cause IgE-mediated food hypersensitivity. In the present study, we investigated the effects of ovalbumin on the cyclooxygenase-2 (COX-2) gene expression in the mouse macrophage cell line RAW 264.7. Ovalbumin significantly increased the prostaglandin E2 production and the expression of COX-2 mRNA and COX-2 protein in a dose-dependent manner. To investigate the significant cis-acting regions which COX-2 promoter, transient transfection experiments were carried out using reporter vectors harboring deleted COX-2 promoters. The transcriptional factor binding sites for activator protein 1 (AP-1) and NF- $\kappa$ B between -574 and -51 could be important for the induction of COX-2 by ovalbumin. The results of these studies suggest that induction of transcriptional activation of COX-2 by ovalbumin might be mediated through the AP-1 and NF- $\kappa$ B activation.

Author Keywords chicken ovalbumin, prostaglandin E2, COX-2 promoter.