

7th
ICPH

International Conference on Polyphenols and Health

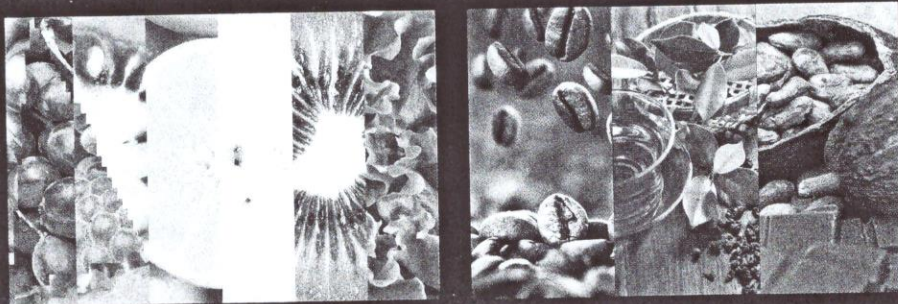
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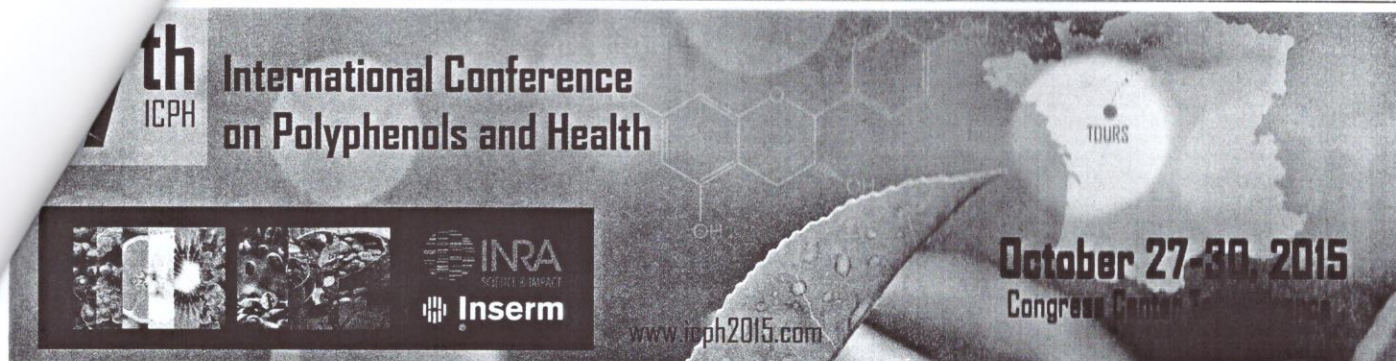
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P809

Resvega, a new preparation of resveratrol and omega-3 fatty acids, to fight age-related macular degeneration (AMD) progression: a role in VEGF-R pathway

Alessandra Scagliarini^{1,2}, Flavie Courtaut^{1,2}, Pauline Châlons^{1,2}, Céline Olmière³ and D. Delmas^{1,2*}

¹ *Université de Bourgogne, Dijon, F-21000, France*

² *Centre de Recherche INSERM U866 - Equipe Chimiothérapie, Métabolisme Lipidique et Réponse Immunitaire Antitumorale, Dijon, F-21000, France*

³ *Laboratoire Théa, Clermont Ferrand, Cedex2, F-63017, France*

*E-mail: ddelmas@un-bourgogne.fr; Phone: 03 80 39 32 26

Numerous epidemiological studies have suggested that bioactive compounds as vitamin E, fatty acids, especially polyunsaturated acids, could be used as supplementation to protect against various diseases such as ocular diseases through their anti-oxidant power. Recently, another compound, resveratrol which is a trans-3,4',5-trihydroxystilbene (RSV), seems to have a great interest in the prevention of ocular diseases especially of age-related macular degeneration (AMD). Indeed, the polyphenol could counteract VEGF production in sick retinal pigment epithelium cell ARPE-19. In our study, we have determined the potential synergy between omega-3 fatty acids and resveratrol counteract VEGF-R pathway. We observed that the combination omega-3/RSV preparation (Resvega®) leads a stronger inhibition of the VEGF-R pathway activation than free preparation of RSV or RSV alone in sick retinal cells. Surprisingly, Resvega® maintains and increases the functional VEGF-R pathway in normal retinal cells. This work brings a new mechanism by which omega-3/RSV could counteract AMD and could protect the second eye when AMD is already present.

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P810

Soy phytoestrogen daidzein upregulates ER and p53 in the uterus of middle-aged rat

I. Jarić*, J. Živanović, M. Miler, V. Ajdžanović, S. Trifunović, N. Nestorović, V. Milošević

Institute for Biological Research "Siniša Stanković", Department of Cytology, University of Belgrade, Serbia.

*e-mail: ivana84@ibiss.bg.ac.rs

Daidzein (DAI) is bioactive, non-nutritive food ingredient of the traditional East Asian diet and appears to be thoroughly discussed as an alternative to classical hormone replacement therapies. Currently, there is still a lack of information on the potential risks of its therapeutic usage. In order to obtain further data useful for estimation of safety profile of DAI, we investigated the potential of DAI for improvement of uterine function in middle-aged female rats. Also, we investigated the expression of steroid receptors (estrogen - ER, ER and progesterone - PR) as well as tumor suppressor p53 expression in the uterus of the same animal model.

Middle-aged (13-months-old) female Wistar rats subcutaneously received 35 mg/kg of DAI or the vehicle (olive oil and ethanol, 9:1), daily for 4 weeks. Changes in the structure and function of uteri were analyzed using the histological immunofluorescence, Western blot and qPCR methods.

DAI did not change uterine weight or histomorphometric characteristics of uterus. Furthermore, the expression of ER and PR mRNA was not affected, while the expression of ER mRNA was increased. The expression level of phosphorylated p53 was decreased, while p53 was increased after DAI treatment, compared to the control group.

These results suggest that changes in ER and p53 expression/activity in the response to DAI may be an important mechanism to protect endometrial cells from proliferation. Therefore, DAI exhibited beneficial effects on the uterus of middle-aged female rats in the conducted study, figuring as the compound with a promising safety profile, thereby justifying the further investigations pertinent to its efficacy in alleviation of postmenopausal discomforts.

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