

P-173**Interactive Pro-Adipogenic Effect of 15-deoxy- $\Delta^{12,14}$ -Prostaglandin J₂ to Interfere the Inducible Synthesis of Anti-Adipogenic Prostanoids in Cultured 3T3-L1 Preadipocytes, an Important Molecular Event to Consider for Drug Development**

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Adipocytes in animal adipose tissues are always affected by a variety of mitogenic and inflammatory factors in autocrine and paracrine manners. Prostanoids generated from these adipocytes at different life stages could exert their interactive effects on the arachidonate cyclooxygenase (COX) pathway in adipose tissues. Many drug candidates from natural sources have already been evaluated to explore the molecular interaction with COX pathway. The present study was undertaken to explore the interacting effects of 15-deoxy- $\Delta^{12,14}$ -prostaglandin J₂ (15d-PGJ₂) on the inducible biosynthesis of PGE₂ and PGF_{2 α} by cultured 3T3-L1 preadipocytes during the growth phase as a model system. We found that the synthesis of the anti-adipogenic prostanoids by preadipocytes was significantly suppressed by the co-incubation with 15d-PGJ₂ due to the reduced induction of COX-2 following the interference of NF- κ B pathway. Our study also revealed that 15d-PGJ₂ was able to rescue the inhibitory effects of endogenous prostaglandins synthesized in preadipocytes during the growth phase. The revealed molecular phenomena might provide important information for treating obesity related disorders by developing new drugs from natural sources.
