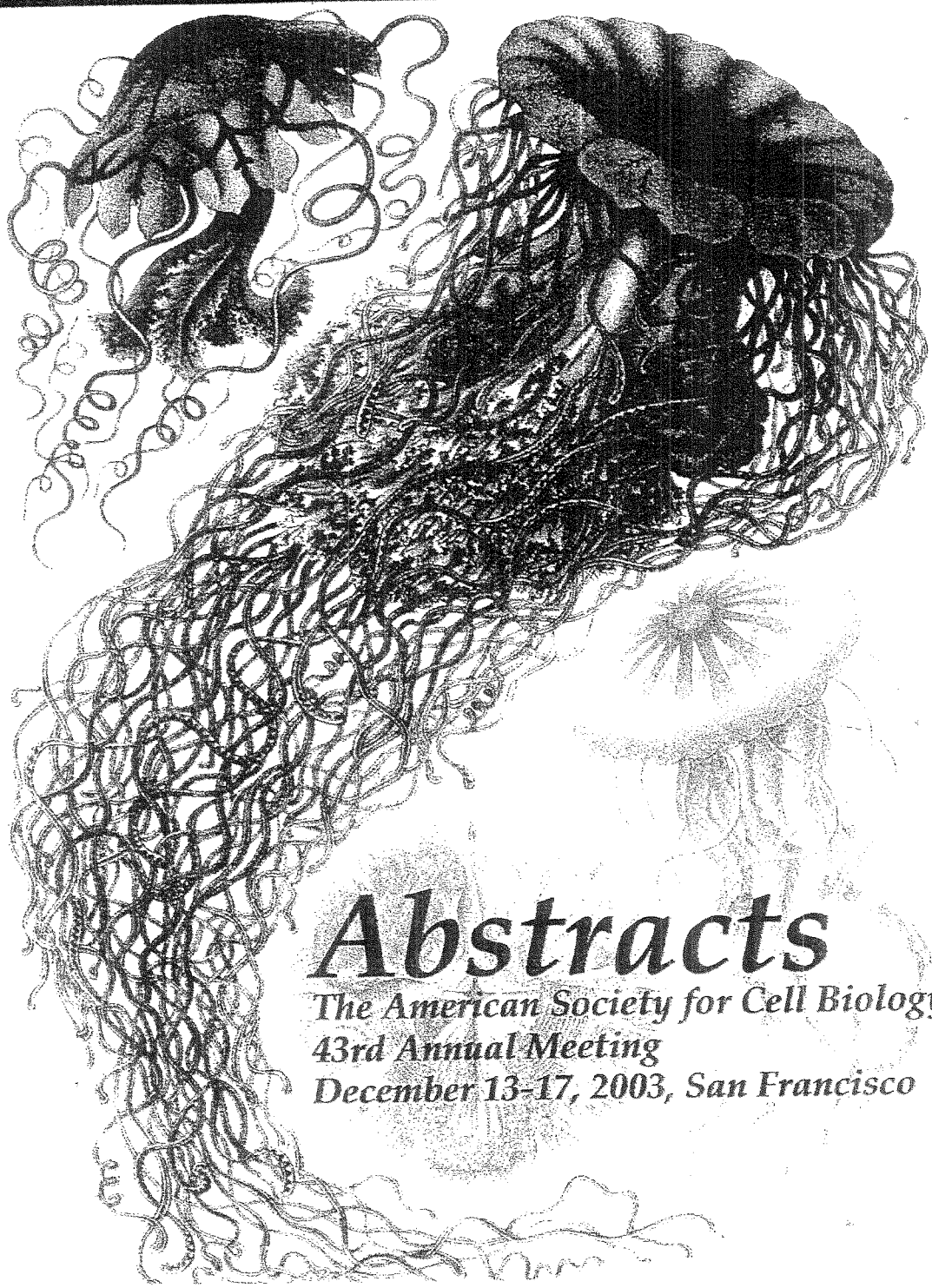
Molecular Biology of the Cell

Supplement to Molecular Biology of the Cell Volume 14 Nov 2003



Abstracts

The American Society for Cell Biology
43rd Annual Meeting
December 13-17, 2003, San Francisco

whether IP-10 or INFγ regulate the expression of other molecules involved in motility signaling. HMEC were incubated with either IP-10 or INFγ then visualized for the expression of the VEGF receptor 2, m-calpain, PLCγ and PIP2. m-calpain was found to be down regulated by INFγ. Since calpain plays an important role in many cellular functions including motility and apoptosis, we investigated whether calpain was activated by VEGF, INFγ or IP-10. We provide evidence that both VEGF and INFγ activated m-calpain but not by IP-10. These data suggest that one possible mechanism for the inhibitory effects of IP-10 on vasculogenesis is though inhibition of m-calpain.

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Water-soluble polyphenols from pulp of olives (Olivenol) suppressed endothelial cell injury induced by 15-hydroperoxyeicosatetraenioic acid

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Many polyphenols are used as health supplements, but there are a few reports that polyphenols inhibit oxidative stress-induced cell damages. We examined whether water-soluble polyphenols from pulp of olives (Olivenol) affected cell toxicity induced lipid peroxides and had anti-inflammatory activity. Bovine endothelial cells were cultured with 5%FBS-MEM and inoculated into 24- or 96 multi-well. The cells were exposed to hydroperoxides (H2O2) or 15-hydroperoxyeicosatetraenoic acid (15-HPETE), a 15-lipoxygenase product of arachidonic acid, and cultured for 2 hrs. Olivenol was added for 30min before exposure or simultaneously. Cell survival was detected by cell morphology, propidium iodide (PI) staining and XTT assay. First, effective doses of olivenol were determined by exposure to H2O2. 15-HPETE induced endothelial cell injury in a dose dependent manner (0.1 uM -5 uM). Both pretreated and simultaneously treated Olivenol suppressed the injury dose-dependently. In the case of 0.1 uM 15-HPETE, the relative XTT activity in control and Olivenol was 21.6% and 93.2%, respectively. The dead cells stained by PI in control and Olivenol were 60 and 3 per field, respectively. It is interesting that 2-(3,4-dihydroxyphenyl)ethanol (DPE), a naturally occurring phenol antioxidant molecule found in olive oil, did not only not suppress the 15-HPETE-induced injury, but even enhanced it. To examine whether Olivenol has ant-inflammatory activity, we measured the effect of Olivenol on monocyte chemoattractant protein-1 (MCP-1) secretion. Olivenol inhibited MCP-1 secretion dose-dependently. Data from these cell culture experiments indicate that polyphenols from olives have cytoprotective and anti-inflammatory effects in endothelial cells and support the concept that certain active molecules other than DPE should be identified for providing for a mechanism by which Olivenol can improve survival of endothelial cells and suppress inflammation.