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Chromans, Hericenones F,G and H from the Mushroom *Hericium erinaceum*.

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In previous papers, we have reported the isolation from an edible mushroom, *Hericium erinaceum*, of novel phenols, hericenones A and B, and a new fatty acid as cytotoxic principles, and hericenones C, D and E as stimulators of nerve growth factor (NGF). We describe now the isolation and structure determination of three new chromans, hericenones F, G and H, from this mushroom, and show that these compounds stimulated the synthesis of NGF.

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Interleukin-2 as a Neurotrophic Factor for Supporting the Survival of Neurons Cultured from Various Regions of Fetal Rat Brain.

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Interleukin (IL)-2 supported the survival and enhanced neurite extension of cultured hippocampal neurons prepared from embryonic 18-day-old rats. This neurotrophic effect was observed at concentrations of 2 to 200 U/ml, and almost all the neurons could survive for more than 2 days in the presence of 200 U/ml of IL-2. This viability-promoting effect of IL-2 on the neurons was completely blocked with anti-IL-2-antibodies. IL-2 also supported the survival of cultured cortical, striatal, and septal neurons. These results indicate that IL-2 has a survival-promoting effect on a wide variety of neurons. On the other hand, IL-2 did not affect the choline acetyltransferase activity of striatal neurons, suggesting that this cytokine does not act as a differentiation factor for striatal cholinergic neurons.

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Production of Nerve Growth Factor by Cultured Vascular Smooth Muscle Cells from Spontaneously Hypertensive and Wistar-Kyoto Rats.

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Nerve growth factor (NGF) is a neurotrophic protein which acts on peripheral sympathetic nerves. Elevated NGF in vascular tissues of young spontaneously hypertensive rats (SHR) has been reported. The aim of the present study was to compare the amount of NGF secreted from cultured vascular smooth muscle cells (VSMC) and mesenteric artery and thoracic aorta segments from SHR and Wistar-Kyoto (WKY) rats. In contrast to the reports of increased NGF in SHR tissues, our data demonstrate that NGF secretion was lower in VSMC from SHR, and was equivalent in mesenteric artery and thoracic aorta segments from SHR and WKY rats. We have no clear explanation for these observations, but the present results indicate that upregulation of NGF in SHR tissues is not responsible for a simple enhancement of NGF synthesis in VSMC, and suggest a breakdown of the regulatory mechanism or mechanisms of NGF gene expression in SHR tissues.