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[Lab. of Molecular Biology]

**Human Fibroblast Cells Synthesize and Secrete Nerve Growth Factor
in Culture.**

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Using our enzyme immunoassay system developed for recombinant hNGF, we examined the synthesis and secretion of human NGF (hNGF) by human fibroblast (WS-1) cells. The amount of the factor secreted by WS-1 cells increased linearly and a significant amount of NGF was detected in the conditioned medium of WS-1 cultures. WS-1 NGF showed properties identical to those of recombinant human NGF in immunoreactivity and molecular weight. An increase in cell density or the withdrawal of serum from the culture medium caused a drastic decrease in the rate of hNGF secretion. These results suggest that WS-1 cells are able to synthesize and secrete hNGF in culture and that the synthesis/secretion is regulated in a growth phase-dependent manner.

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[Lab. of Molecular Biology]

**Suppression of Experimental Autoimmune Myasthenia Gravis with
New Immunosuppressants : 15-Deoxyspergualin and Actinobolin.**

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In the search for a new drug to treat myasthenia gravis, we studied the efficacy of new immunosuppressants on experimental autoimmune myasthenia gravis. 15-Deoxyspergualin (15-DSP), bactobolin and acinobolin were administered to some groups at the time of immunization and to other groups 10 days after. The most effective results were achieved with doses of 2.5 mg/kg daily of 15-DSP and 30 mg/kg daily of actinobolin administered from day 1. In both groups, the body weight of the rats increased as normally as those of controls and signs of myasthenia were mild. Immunoelectron microscopic examination of the neuromuscular junctions in rats treated with 2.5 mg/kg of 15-DSP appeared normal, even in the chronic phase (induced by a booster at week 4).

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[Lab. of Molecular Biology]

**Denervation of Dopaminergic Neurons with 6-Hydroxydopamine
Increases Nerve Growth Factor Content in Rat Brain.**

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Denervation of dopaminergic neurons by intra nigra injection of 6-hydroxydopamine (6-OHDA) increased nerve growth factor (NGF) content in the cortex and hippocampus, both of which are innervated by cholinergic neurons. The increase continued during an observation period of 0.5-28 days after the lesion. The time course of changes in NGF content was quite different from that of cholinergic neuron denervation. The decreased dopamine content produced in the striatum by 6-OHDA injection was not recovered during the observation periods. These results suggest that dopaminergic neuron may affect NGF synthesis.