

# INTRODUCTION

## The Superfamily of Receptors for Growth Hormone, Prolactin, Erythropoietin, and Cytokines

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Concurrent studies conducted in several laboratories in the late 1980s led to cloning, expression, and characterization of the receptors to growth hormone (GH), prolactin (PRL), erythropoietin (EPO), interleukin (IL)-4, IL-7, and granulocyte-macrophage colony-stimulating factor (GM-CSF). In 1989-90 these were recognized as a novel family of growth factor receptors, followed by an explosion of publication in the field and extension of the family to include several other growth factors, mostly cytokines. These receptors were found to have a high degree of homology in sequence motifs of their N-terminal extracellular domains. These extracellular domains were the subject of another important pursuit by investigators: recognizing soluble binding proteins for several of the ligands to the superfamily, with sequence identity to the extracellular domains of the receptors.

The superfamily of receptors shared another feature. Their signal transduction mechanism remained unknown and only very recent reports made preliminary disclosures regarding some steps of the cascade of events, leading to effector response to signals initiated by the ligands binding to their respective receptors.

As the superfamily of receptors extended, it attracted a wide spectrum of investigators, originally interested in medical and biological research in distant disciplines. The Haifa Workshop of November 1993 was meant to assemble investigators from these distant disciplines and allow them to compare notes and infer from results on other members of the receptor superfamily results on ones own area of interest. It attracted researchers with an interest in molecular biology, biochemistry, physiology, and pharmacology as well as preclinical and clinical investigators. This workshop was made possible through a grant from JCR Pharmaceuticals Co. Ltd., Ashiya, Japan. Papers from the Workshop are being published in this issue of *Proceedings of the Society for Experimental Biology and Medicine*.

The common interest found in this symposium is to be carried on by the newly formed Growth and Growth Hormone Forum, which endorsed the Haifa Workshop as the first in a series of symposia, to be held annually.