

**Mechanisms of Action  
& Therapeutic Applications  
of Biologicals in Cancer &  
Immune Deficiency Disorders**

# **Mechanisms of Action and Therapeutic Applications of Biologicals in Cancer and Immune Deficiency Disorders**

Proceedings of a Hoffman-La Roche-  
Smith Kline & French—UCLA Symposium  
Held at Keystone, Colorado  
April 23–30, 1988

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## Preface

We are witnessing a period of extraordinary progress in the understanding of growth factors. The application of recombinant DNA technology has allowed for the molecular and biochemical characterization of a wide range of polypeptides that modulate cell growth and function. These have been rapidly moved from the laboratory to the bedside and are showing considerable clinical promise in augmenting host defense. This symposium, **Mechanisms of Action and Therapeutic Applications of Biologicals in Cancer and Immune Deficiency Disorders**, was held at Keystone, Colorado, April 23–30, 1988, and formed an opportunity for interdisciplinary communication among basic science and clinical investigators. The proceedings in this volume represent the state-of-the-art in understanding the basic biology and clinical application of hematopoietic growth factors, the interleukins, and monoclonal antibody therapy. The complexity of the acquired immunodeficiency syndrome is such that one or several of these biologic modalities may prove to be of benefit in its treatment, and therefore AIDS served as a focus for much of the work and research.

The consensus of the meeting was that by manipulating number and/or function of immune effector cells of myeloid or lymphoid lineage, disorders that previously were not amenable to therapy may ultimately emerge as responsive. With such therapeutic approaches there are concerns and considerations that focus on the potential toxicities or negative effects that biologics might have on the host. An improved understanding of the physiological role of these mediators may allow us to use them in a selective and intelligent fashion with minimal and tolerable side effects. We are only at the threshold in benefiting from the applications of biologicals to malignant and immunodeficiency disorders.

We are indebted to Hoffmann-La Roche, Inc. and Smith Kline & French Laboratories for their support in sponsoring this meeting. Additional support was received from Biogen Research Corporation, Cetus Corporation, NeoRx Corporation, and the Genetics Institute.

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EXPERIENCE WITH RECOMBINANT HUMAN  
ERYTHROPOIETIN IN MAN: AN UPDATE<sup>1</sup>

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**ABSTRACT** End-stage renal disease (ESRD) typically is associated with severe anemia. The major contributor to the anemia appears to be the absolute or relative deficiency of erythropoietin (Epo) production by the kidney. A series of clinical trials have been conducted in the United States using recombinant human Epo (rHuEpo) to treat anemic patients with ESRD. The encouraging results of the Phase I-II clinical trials have been confirmed in a multicenter trial in which over 250 patients have been treated. The rHuEpo was well tolerated, produced few or no direct side effects, and was effective in greater than 95 percent of the patients. rHuEpo should have a major role in the management of patients with ESRD and contribute significantly to their rehabilitation.

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