



Growth Factors and Receptor Tyrosine Kinases in Development, Regeneration, and Tumorigenesis

Guest Editor:

Prof. Dr. Carl-Henrik Heldin

Department of Medical
Biochemistry and Microbiology,
Uppsala University, Uppsala,
Sweden

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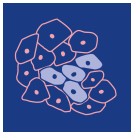
Message from the Guest Editor

Members of the family of receptor tyrosine kinases (RTKs) have been shown to have important functions in embryonal development, wound healing, and tissue homeostasis. Their extracellular ligand-binding parts are composed of different combinations of domains.

Many, maybe all, RTKs are activated by dimerization or oligomerization, induced by ligand binding. This results in the auto-phosphorylation of certain tyrosine residues in the intracellular parts of the receptors, creating docking sites for SH2-domain-containing molecules, as well as in the tyrosine phosphorylation of specific downstream signaling molecules. The activated signaling pathways leads to the stimulation of cell growth, survival, and migration. Over-activity, by mutation, amplification, or overexpression, of RTKs are common in tumorigenesis, and more than half of the known RTKs have been implicated as drivers of various tumors. Tyrosine kinase inhibitors have therefore been developed and are used clinically, with beneficial effects in the treatment of tumors.

This Special Issue will highlight recent developments in the normal function of RTKs and their role in disease, as well as their structural properties.





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Editor-in-Chief

Prof. Dr. Samuel C. Mok

Department of Gynecologic
Oncology and Reproductive
Medicine, The University of Texas
MD Anderson Cancer Center,
Houston, TX 77030, USA

Message from the Editor-in-Chief

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Cancers Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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