BioMed Research International

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Special Issue on

Phosphorylation, Signaling, and Cancer: Targets and Targeting

CALL FOR PAPERS

60 years after the publication, 1954, of the first report on enzymatic phosphorylation of proteins by Eugene Kennedy, protein kinases are now well-established key signaling molecules that impact all major biological processes. Several protein and lipid kinases have been recently implicated in the pathophysiology of cancer. Protein and lipid kinases are therefore a focus of both basic cancer research and drug discovery. As a result, kinase inhibitors are among the fastest growing classes of anticancer drugs. Notable advances have been made in the rational design of small-molecule inhibitors that target unique kinase conformational forms and binding sites and have specific kinase selectivity profiles. Furthermore, novel protein and oligonucleotide-based compounds that target protein kinases are being developed. Modern, high throughput techniques and better knowledge of the kinome are also very important to gear up the protein kinase drug discovery process, and they are a cornerstone for personalized cancer therapy.

In this special issue, we intend to invite front-line researchers and authors to submit original research and review articles that will shed new light on the diverse approaches to target protein kinase signaling in malignant cells.

Potential topics include, but are not limited to:

- Validation of kinases as targets: tools and approaches
- Targeting lipid kinases including SPHK and CERK
- Targeting RTPKs with particular emphasis on allosteric approaches (dimerization inhibitors, etc. (mAbs))
- Inhibition of acidophilic kinases, in vitro/in vivo
- Inhibition of basophilic kinases, in vitro/in vivo
- Resistance to kinase inhibition: priming, unintended feedback, reactivation of pathways, and how to solve the problem
- Pathway-specific targeting, in vitro/in vivo
- Protein phosphorylation as a tool to predict protein kinase sensitivity to drug targeting
- Design and validation of kinase or multiple kinase inhibitors
- High throughput technologies for kinase profiling
- Inhibition of individual versus multiple pathways
- Structure based drug discovery for kinases
- Pseudokinases: structure-function relationships and targeting
- A system approach to conquer the kinome space: how to tackle this and what would we learn

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/oncology/psdt/.

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