OVERVIEW

In 2016, three thematic issues were proposed.

The first one in January, guest-edited by Claudio Festuccia, Alessio Lodola and Giovanni Luca Gravina entitled « Antitarget therapies: New frontiers in the treatment of cancer ». It is now possible to determine a detailed molecular profile of tumors. Consequently, selective drugs can be used to act on the targets responsible for the development of cancer cells. These drugs fight cancer cells more selectively than traditional therapies thus minimizing the side effects. Eight reviews dealing with immunologic, functional, molecular signaling and metabolic targets associated with the development and progression of solid tumors are gathered in this special issue.

Two issues N°4 (Part I) and N°9 (Part II) guest-edited by Qiaoming Zhi provided a summary of some recent developments in the field of diagnostic or prognostic biomarkers in digestive system tumor biology. In this connection, the roles of Bmi1, miR-372, miR-183, PTENP1, miR-203, miR-101, SCYL1-BP1 were analyzed in part I, whereas in Part II the roles of Lgr5, MGMT, ω-3 PUFAs, miR-106a, long non-coding RNA C21orF96, miR-1826 were examined.

Another special issue (N°10) guest-edited by Harmeet Kaur is devoted to heteroaromatics as anticancer agents. Recent advances in spirooxindoles, fucoidan-oleic acid conjugate, heterocyclic tubulin inhibitors, thiadiazoles, diflunisal thiazolidinones, flavonoids, quinoxalines, cancer stem cells inhibitors were reported.

Targeting cancer stem cells is a major challenge which was also examined by A. Dubroska and collaborators and P.J. Richardson in N°1 issue.

Besides this special issue, many reviews and research articles were devoted to new heterocyclic compounds with various scaffolds which were either synthetic compounds or extracted from natural products.

Improving the delivery of drugs was a largely developed topic. Brain delivery of chemotherapeutics was reviewed by Subudhi and Singh in N°2. Nanoliposomes were described by Mahajan et al. in N°3, and by Giri et al. in N°7. Feng et al. reported copolymeric delivery systems based on cyclodextrin derivatives in N°3. Methotrexate loaded chitosan nanoparticles and heterocyclic drug-polymer conjugates were described respectively by Gunel Nur et al. in N°8 and by Kaur et al. in N°11.

Metal complexes continued to attract great interest as anti-cancer agents such as organogallium (III) complexes for the treatment of colon cancer (Kaluderovic et al. N°3), novel platinum-based compounds (Shahsavar et al. N°3), ruthenium (II) and iridium (III) complexes (Ludwig et al. N°11), trans-platinum (II)/(IV) complexes (Lana et al. N°12).

Targeting cancer cells via kinase inhibition was also a major theme: PAK signaling pathway (Senapedis et al. N°1), EGFR (Singh et al. N°6 and Fang et al. N°12), CDK1 (Ha et al. N°7), FAK (Cao et al. N°8), ERK1/2 MAPK (Lisiak et al. N°8), mutant B-Raf kinase (Asati et al. N°12).

I hope that the excellent reviews and research papers published in Volume 16 will trigger fruitful further developments.

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