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Targeted Therapy of Cancer Cells (Volume 2)

Guest Editor

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Targeted therapies have attracted tremendous attention for cancer treatments in recent years, with CAR-T being a promising approach for targeted cancer immunotherapy. The majority of current efforts have been made to identify cancer-specific new targets and also to develop drug delivery strategies. These targets include but not limited to neoantigens that can be used for developing personalized cancer vaccines, tumor promoters and suppressors (e.g. PARP1), and immune checkpoints (e.g. CTLA-4 and PD-1). The delivery strategies include but are not limited to oncolytic viruses, nanoparticles, dendrimers, polymeric conjugates, and microvesicles. Compared to conventional systemic chemotherapy, targeted therapy is more beneficial with reduced side effects on healthy cells. It can also be used in combination with chemotherapy or with other cancer treatments. Currently, targeted therapy is only available for limited cancer types including blood, breast, and colorectal cancers, and melanoma. For a given setting, the selection of target, optimal dosage, and optimal combinations are practically challenging considering the efficacy, durability, and specificity.

The objective of this SI is to highlight recent advances on the identification of cancer-specific targets and the development of drug delivery strategies. We look forward to receiving your contributions.

Keywords: cancer immunotherapy; neoantigen; cancer vaccine; nanoparticles; immune checkpoint; oncolytic viruses