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Photodynamic therapy-based combinations with immunotherapy in colon cancer treatment

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STELLINGEN
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**PHOTODYNAMIC THERAPY-BASED COMBINATIONS WITH
IMMUNOTHERAPY IN COLON CANCER TREATMENT**

1. Photodynamic therapy (PDT) has shown impressive therapeutic effects on various types of cancers by reactive oxygen species (ROS) generation capable of causing intracellular oxidative stress and triggering tumor cell death. (this thesis)
2. The basic concept of cancer immunotherapy is to activate the immune system to effectively recognize and remove tumor cells by enhancing the antitumor response in the cancer-immune cycle and reducing the evasive effect towards immune defenses. (this thesis)
3. By combining PDT with other current cancer treatment modalities, one may exploit the strengths and bypass the weaknesses of individual treatments and thereby achieve additive (or even synergistic) therapeutic effects. (this thesis)
4. Nanotechnology can be a valuable drug delivery approach for photo-immunotherapy in cancer, as well as enable the co-delivery of multiple therapeutic drugs in a spatiotemporally controlled manner. (this thesis)
5. "The myriad phenotypic complexities of cancer are manifestations of a small set of underlying organizing pattern which we haven't interpreted yet." From Hanahan et al., Cell. 2011.
6. "The mechanisms regulating TLR pathway crosstalk maybe related, as multi-PAMP activation often leads to synergistic enhancement of late-peaking T cell polarizing cytokines." From Lin et al., Cell Systems, 2017.
7. "The immense size and complex components of the immune system repertoire suggests that boosting host immune system to achieve the cure of cancer is promising due to its ability of dealing with mutability and adaptability of cancer." From Sharma et al., Cell, 2015.
8. "Tumors are not only organized tissues with malignant cells but have numerous reciprocal local and systemic connections with multiple immune cell populations and extracellular matrix." From Palucka et al., Cell, 2016.
9. "See you later is the most romantic agreement. One never knows that after someone says goodbye to you one day, you really won't see them again." – inspired by Miyazaki Hayao (born 1941).
10. "All the coincidences in life are actually destined, for fate. Never doubt what you have chosen, and never regret what you have given up." – inspired by Higashino Keigo (born 1958).