

## Special Issue on Photosensitizers in Medicine

# CALL FOR PAPERS

Photosensitizers (nontoxic dyes) have been used for photodynamic therapy (PDT), a well-studied therapy for cancer and various nonmalignant diseases, including infections. Photosensitizers are activated by absorption of visible light to initially form the excited singlet state, followed by transition to the long-lived excited triplet state. This triplet state can undergo photochemical reactions in the presence of oxygen to form reactive oxygen species (including singlet oxygen) that can destroy cancer cells, pathogenic microbes, and unwanted tissue. Photosensitizers have several advantages over other cytotoxic agents: they do not cause mutagenic effects or cell resistance and are effective against biofilm-forming bacterial strains and antibiotic-resistant strains. Photosensitizers can serve as powerful anticancer agents and as an effective alternative to antibiotics.

The current special issue aims to review recent advances and progress in antibacterial and anticancer photodynamic therapy as well as other practical aspects of challenges and potential applications in the field of photosensitizers. This issue is of special importance for researchers and scientists in the fields of biology, microbiology, medicine, surgery, and so forth.

Potential topics include but are not limited to the following:

- ▶ Photosensitizers as antibacterial agents
- ▶ Photosensitizers for anticancer treatment
- ▶ Antiviral activity of photosensitizers
- ▶ Fungicidal action of photosensitizers
- ▶ Photosensitizers for treatment of fish diseases
- ▶ Photosensitizers encapsulated in liposomes
- ▶ Photosensitizers combined with antibiotics
- ▶ Sonodynamic excitation of photosensitizers
- ▶ Photosensitizers in photonanomedicine
- ▶ “Second generation” of photosensitizers
- ▶ Combination of photosensitizers with chemotherapeutics for cancer treatment
- ▶ Photosensitizers in fluorescence-guided surgery
- ▶ Approaches to manipulate cancer tissue using photochemistry and nanotechnology

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