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## Antioxidants and Hypoxia in Cancer Therapy

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### Message from the Guest Editor

Cancer hypoxia is acknowledged as one of the most significant characteristics of cancer. Deficient or improper vascularization, as well as systemic hypoxia of the patient, are the main causes of cancer hypoxia. Hypoxia-induced transcription factors then cause a special type of genetic reprogramming (HIF). In addition, constitutive activation of oncogene-driven signaling pathways may also activate hypoxia signaling. The angiogenic phenotype, a novel metabolic profile, and the immunosuppressive microenvironment are the results of HIF activation in tumors. The first-in-class HIF2 inhibitor has recently been approved. The hypoxia-inducible transcription factors HIF1a, HIF2a, and HIF3a serve as the central node where hypoxia signaling converges. On the basis of research on various hereditary cancer syndromes, a role for HIFa proteins, particularly HIF1a and HIF2a, in the beginning of tumor formation has also been proposed. There is now a great deal of interest in HIF targeting as a new cancer therapy option, it is time to study the role of antioxidants in cancer hypoxia for cancer treatment.



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# Special Issue



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## Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of "oxidative stress" a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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