



Hypoxia and Cancer: Biological Implications and Therapeutic Opportunities (Hardback)

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Springer-Verlag New York Inc., United States, 2013. Hardback. Book Condition: New. 2014 ed.. 236 x 160 mm. Language: English . Brand New Book. The imbalance between rapidly proliferating tumor cells and inadequate and inefficient tumor vasculature leads to a decrease in oxygen levels (hypoxia and/or anoxia) in tumor tissues. Intra-tumor hypoxia profoundly affects the biological behavior of cancer cells, which become resistant to conventional therapies and acquire a more invasive and metastatic phenotype. Hypoxia is a hallmark of the malignant phenotype and a key feature of the tumor microenvironment. Hypoxia Inducible Factor 1 (HIF-1) is a master regulator of the transcriptional response to oxygen deprivation. HIF triggers the expression of genes whose products induce angiogenesis, decrease oxygen consumption, switch metabolism to glycolysis, maintain a stem cell phenotype and select for more invasive and metastatic cells. Therapeutic approaches targeting HIF, directly or downstream mediators of its transcriptional activity, are being developed. Intra-tumor hypoxia is a topic has been gaining scientific interest over the last few years for its wide involvement in many physiological and pathological processes. This volume will cover the latest research and translational aspects associated with intra-tumor hypoxia, along with opportunities for drug development offered by this unique feature...



Reviews

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