

Bionovo Announces Publication Describing How Metabolic Adaptability Contributes to the Metastasis of Tumors

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EMERYVILLE, Calif., Dec. 15, 2010 /PRNewswire/ -- Bionovo, Inc. (Nasdaq: [BNVI](#) [1]) today announced the publication of a study entitled "CC3/TIP30 regulates metabolic adaptation of tumor cells to glucose limitation" in the journal *Cell Cycle*. The study describes the critical linkage between the expression of the protein CC3/TIP30 in cancer cells and their ability to adapt and survive in adverse conditions such as lack of glucose and other nutrients. Lack of CC3/TIP30 in a variety of human tumors allows them to resist the death signals created by metabolic stress encountered during aggressive tumor growth and metastases. Absence of CC3/TIP30 thus contributes to the development of aggressive and metastatic cancers.

"The research described in this publication is a result of a long standing interest in the metabolic changes accompanying the development of aggressive cancers. Metabolism has recently become the focus of intense interest in the basic and translational cancer research," said Emma Shtivelman, Ph.D., Director of Cancer Research at Bionovo. "We found that a previously discovered metastasis suppressor CC3/TIP30 affects tumor cell metabolism in unexpected ways. Expression of CC3/TIP30 is low or even absent in a variety of advanced cancers. Our work shows that absence of CC3 contributes to survival of tumor cells under adverse conditions such as lack of nutrients. Tumor cells, in particular metastatic cells, frequently encounter conditions of low glucose availability due to inadequate blood supply. Absence of CC3 allows tumor cells to modify their metabolic preferences and relinquish their dependence on glucose for glycolytic energy production. Cells lacking CC3 adapt to low glucose conditions by activating mitochondrial respiration and oxidative phosphorylation, and continue to survive and proliferate. Cells expressing CC3/TIP30 fail to adapt to limited availability of

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[2] <http://www.bio-medicine.org/medicine-technology-1/Bionovo-Announces-Publication-Describing-How-Metabolic-Adaptability-Contributes-to-the-Metastasis-of-Tumors-13296-1/>

