Seahorse Bioscience to Present Novel Cellular Bioenergetics Data in Collaboration with University of Nebraska at AACR Metabolism and Cancer Conference

Take Action

Learn more about the XF96 Extracellular Flux Analyzer

Media Contact:
Cynthia Egan
(978) 671-1610

New instrument reveals the impact of genetic and nutrient factors in the malignant transformation of cancer cells.

N. Billerica, MA - Seahorse Bioscience, Inc., the leader in the design and development of instruments for assessing cellular bioenergetics, today announced it will present data with the University of Nebraska demonstrating the power of the XF Extracellular Flux Analyzer in revealing the effects of KSR1 and nutrients on oxidative phosphorylation and aerobic glycolysis in cancer cells. The data will appear in two posters at the AACR Metabolism and Cancer Conference to be held September 13-16th in La Jolla CA.

The first poster, "The molecular scaffold, Kinase Suppressor of Ras 1 (KSR1), potentiates H-RasV12 induced transformation and expands cellular capacity for glycolysis and oxidative phosphorylation," reveals unexpected changes in glucose uptake and redirection from bioenergetic pathways to biosynthetic pathways with KSR1 expression in MEF, suggesting that KSR1 optimizes substrate metabolism in Ras-transformed cells. "Our collaboration with Seahorse allowed us to take gene array data and connect it directly to cellular metabolic activity, "observed Dr. Rob Lewis, Professor in the Eppley Cancer Institute at the University of Nebraska Medical Center and poster co-author. "We are now actively exploring new connections among genes, metabolism, and oncogenesis."

The second poster, "Monitoring the flux of glucose, glutamine and metabolic intermediates in tumor cells: excessive nutrients are necessary for cellular metabolic transformation," shows the effects of excessive nutrients in tumor cells beyond the Warburg effect, including shifts in substrate flux in both the bioenergetic and the biosynthetic pathways.

"We undertook this collaboration to show how the XF may be used to uncover novel metabolic aspects of various cancers," stated Dr. Min Wu, Director of Applications Development with

Seahorse Bioscience and co-author on both posters. "The work of Dr. Lewis's shows the importance of genes in mitogen signaling pathways in malignant transformation, while my lab is beginning to show the importance of nutrients in determining the outcomes of cancer phenotypes. This would have been very difficult to detect without the XF Analyzer."

Poster Details:

The two posters will be presented during Poster Session B on Tuesday, September 15th from 5 to 7 PM.

Monitoring the flux of glucose, glutamine and metabolic intermediates in tumor cells: excessive nutrients are necessary for cellular metabolic transformation. by Lisa S. Pike, Denise Chen, David A. Ferrick, and Min Wu, Seahorse Bioscience.

The molecular scaffold, Kinase Suppressor of Ras 1 (KSR1), potentiates H-RasV12 induced transformation and expands cellular capacity for glycolysis and oxidative phosphorylation. by Kurt Fisher, Amy Smift, Denise Chen, Lisa Pike, Oleg Chaika, Min Wu and Rob Lewis. Kurt Fisher and Robe Lewis are from the Eppley Institute for Research in Cancer and Allied Diseases at the University of Nebraska Medical Center.

About Seahorse Bioscience:

Seahorse XF instruments are the new standard in cellular bioenergetic measurements. Scientists worldwide use these tools to advance their research in understanding the role of mitochondrial function in obesity, diabetes, ageing, cancer, cardiovascular function and safety toxicity. Founded in 2001, Seahorse is headquartered in Billerica, MA.