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FOR IMMEDIATE RELEASE

Transgenomic Obtains Exclusive License to Mitochondrial DNA Damage Detection Technology

Method measures oxidative stress in cardiovascular and other diseases

Omaha, NE, December 4, 2008 – Transgenomic (OTC-Bulletin Board: TBIO.OB) today announced that the Clayton Foundation for Research of Houston, Texas through its technology transfer entity, the Research Development Foundation, has granted the Company an exclusive license to patents covering a method for mitochondrial DNA (mtDNA) damage detection. The patents form the basis for the development of diagnostic tests in cardiovascular disease, diabetes, degenerative diseases of aging, cancer, and other diseases, by measuring increased oxidative damage within mitochondria.

Mitochondria are organelles that produce the energy required for cells to function normally. As the “power plants” of the cell, they are highly sensitive to oxidative damage, which reduces energy production. Epidemiologic and biologic studies suggest that oxidative stress is a risk factor for cardiovascular death, but the absence of an accepted measure has limited the ability to determine whether reducing oxidative stress will reduce cardiovascular risk. The licensed technology utilizes a quantitative polymerase chain reaction (PCR) measurement of mtDNA damage, and is a sensitive and specific indicator of oxidative stress.

The method was invented by researchers at the University of Texas in the laboratory of Dr. Ben Van Houten. In collaboration with Dr. Marschall Runge, they demonstrated that mtDNA damage in blood cells occurs early in atherosclerosis, that aortic mtDNA damage increases with age, and that genetic background and diet both can influence the level of damage. Preliminary studies suggest that the level of mtDNA damage also correlates with a near-term risk of major adverse cardiovascular events. Hence, measurement of mtDNA damage may be useful for predicting coronary atherosclerotic heart disease.

Dr. Van Houten, now at the Hillman Cancer Center at the University of Pittsburgh, has published more than 30 papers using this technology to follow damage and repair in mitochondrial and nuclear genomes. His laboratory has also shown that mtDNA damage develops in the brains of older mice and in a chemical model of Parkinson’s disease. “We have demonstrated that reactive oxygen species cause significantly more mitochondrial DNA damage than nuclear damage in cells from human to yeast, and I am enthusiastic about moving this exciting assay from the bench to the bedside,” he said.

Dr. Runge, who is now chair of the Department of Medicine at the University of North Carolina at Chapel Hill School of Medicine, noted the value of a test for mtDNA damage developed for broad clinical application. He commented, “In collaboration with Transgenomic we will be able to pursue studies of large populations of individuals at risk of cardiovascular diseases, and determine the utility of this measure in patients who may benefit from therapies to reduce oxidative stress.”



Craig Tuttle, CEO of Transgenomic, commented, “We are pleased to conclude a license with the Clayton Foundation to develop this technology, which it has supported for many years. The license complements Transgenomic’s mtDNA mutation analysis capabilities, and demonstrates continued strategic commitment to the rapidly growing area of mitochondrial analysis for pharmacogenomic research and clinical applications.”

About Mitochondrial DNA Tests from Transgenomic

Mitochondria are organelles that produce the energy required for cells to function normally. There are hundreds of mitochondria in each cell, and within each mitochondrion are approximately 5 to 10 circular mtDNA molecules. These are maternally inherited, distinct from nuclear DNA, and encode a small number of mitochondrial genes, including elements of the oxidative phosphorylation (OX-PHOS) machinery that manufactures ATP, the biochemical energy currency. That same machinery can generate toxic by-products – “oxygen free radicals” – that can chemically damage surrounding molecules, including mtDNA. Damaged mtDNA causes the production of faulty or decreased OX-PHOS machinery, which then can increase the generation of oxygen free radicals, and so a vicious cycle is triggered that ultimately leads to a reduced energy supply ATP. The amount of damaged mtDNA thus is an inverse measure of cellular health: the less damage the healthier and the more damage the less healthy a cell is.

Transgenomic has specialized in the molecular diagnostics of mitochondrial disorders including whole mitochondrial genome sequence and pathogenic point mutation analysis, as well as assessment of nuclear genes associated with mitochondrial function, such as DNA polymerase gamma (POLG). In addition to the mtDNA damage assay, Transgenomic is developing other tests to assess mtDNA copy number and deletion.

About Transgenomic

Transgenomic is a global biotechnology company that provides unique products and services of automated high sensitivity genetic variation and mutation analysis. Their offerings include systems, products, discovery and laboratory testing services to the academic and medical research, clinical laboratory and pharmaceutical markets in the fields of Pharmacogenomics and personalized medicine. Specific offerings include WAVE® DHPLC Systems, related consumables and assay kits, Cytogenetics automated systems, and Transgenomic Pharmacogenomics and Reference Laboratory Services. Transgenomic Pharmacogenomics and Laboratory Services utilize their technology and expertise to provide a menu of mutation scanning tests for over 700 cancer-associated genes and more than 60 validated diagnostic tests to meet the needs of pharmaceutical and biotech companies, research and clinical laboratories, physicians and patients. For more information about the innovative systems, products and services offered by Transgenomic, please visit: www.transgenomic.com.

About the Clayton Foundation

The Clayton Foundation for Research is a Houston, Texas-based non-profit medical research organization founded in 1933 by Benjamin Clayton. The Clayton Foundation and its supporting entities have more than thirty medical research projects at eleven institutions, and the Foundation has the rights to the intellectual property arising from these projects. Several cutting-edge biomedical technologies discovered by the Clayton Foundation have been successfully commercialized through the creation of start-up companies and out-licensing.



About the University of Pittsburgh School of Medicine and Cancer Institute

The University of Pittsburgh School of Medicine is one of the nation's leading medical schools, renowned for its curriculum that emphasizes both the science and humanity of medicine and its remarkable growth in National Institutes of Health grant support, which has more than doubled since 1998. The School of Medicine is the academic partner to the University of Pittsburgh Medical Center. Their combined mission is to train tomorrow's health care specialists and biomedical scientists, engage in groundbreaking research that will advance understanding of the causes and treatments of disease and participate in the delivery of outstanding patient care. The University of Pittsburgh Cancer Institute is an NCI-designated Comprehensive Cancer Center. It is the only cancer center in western Pennsylvania with this designation and serves the region's population of more than six million. Presently, UPCI receives a total of \$174 million in research grants and is ranked 10th in funding from NCI.

Dr. Van Houten is the Richard M. Cyert Professor of Molecular Oncology in the Department of Pharmacology and Chemical Biology, and is Leader of the Program in Molecular and Cell Biology UPCI.

About UNC Health Care and the University of North Carolina School of Medicine

The UNC Health Care System is a not-for-profit integrated health care system owned by the state of North Carolina and based in Chapel Hill. It exists to further the teaching mission of the University of North Carolina and to provide state-of-the-art patient care. UNC Health Care is comprised of UNC Hospitals, which is ranked among the top 50 in the nation in six specialties by U.S. News & World Report and ranked one of the country's 41 best on the Leapfrog 2007 Top Hospitals list; the UNC School of Medicine, a nationally eminent research institution; community practices; home health and hospice services in seven central North Carolina counties; and Rex Healthcare and its provider network in Wake County; and Chatham Hospital in Siler City.

Dr. Runge is president of UNC Physicians and Associates for UNC Health Care in addition to being chair of the Department of Medicine at the University of North Carolina School of Medicine.

Transgenomic Cautionary Statements

Certain statements in this press release constitute "forward-looking statements" of Transgenomic within the meaning of the Private Securities Litigation Reform Act of 1995, which involve known and unknown risks, uncertainties and other factors that may cause our actual results to be materially different from any future results, performance or achievements expressed or implied by such statements. Forward-looking statements include, but are not limited to, those with respect to management's current views and estimates of future economic circumstances, industry conditions, company performance and financial results, including the ability of the Company to grow its involvement in the diagnostic products and services markets. The known risks, uncertainties and other factors affecting these forward-looking statements are described from time to time in Transgenomic's reports to the Securities and Exchange Commission. Any change in such factors, risks and uncertainties may cause the actual results, events and performance to differ materially from those referred to in such statements. Accordingly, the company claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 with respect to all statements contained in this press release. All information in this press release is as of the date of the release



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and Transgenomic does not undertake any duty to update this information, including any forward-looking statements, unless required by law.