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Absence of GIPSITUMAB™ A Newly Discovered Bispecific Naturally Occuring IgA/IgG Heterodimer Portends the Existense of a Genetic Cancer/Infections Risk Marker Found in Two Subjects of African-American Lineage

We had previously reported the discovery of a broad-spectrum antibody generated naturally by cells lining the wall of the human large bowel that kills a variety of cancer cells. This antibody, GIPSITUMAB™ is a chimeric heterodimer of IgA/IgG. This bivalent immunoglobulin has two arms, one IgG binding to a common membrane-associated tumor antigen (MATATM) resulting in osmolytic tumor cell death while the other arm (IgA) is postulated to recognize cells infected by pathogenic viruses/bacteria resulting in destruction of the infected cells.

In a cohort of about 60 normal free-living subjects, we isolated these exfoliated colonocytes from small aliquots of stool (0.5 gms) using our SCSR technology. They were then labelled with fluorescent tagged antibodies to IgA/ IgG and analyzed by flow cytometry to detect the coexpression of the chimeric GIPSITUMAB™. We found two subjects in this group without any evidence of this chimera. On further unblinding the dataset, we were surprised to find that these two subjects were of African-American ethnicity.

We have now developed a simple two step procedure to transform these colonocytes into antibody secreting cell lineage similar to monoclonals. This process of generating this native antibody (oncolytic or therapeutic for infectious diseases such as HIV, ebola, anthrax, malaria, influenza) is superior to hybridomas and is significantly cost effective, estimated at about 12% of what is currently costing.

Proof of concept studies have shown this novel antibody to be controlled at the genomic level and therefore its absence in humans is postulated to be a germ-line deletion resulting in a genomic syndrome probably associated with increased risk of developing a malignancy or contracting an infection.

This is a first in class bispecific naturally-occurring antibody with therapeutic properties.

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Biography:

Padmanabhan Nair, Ph.D., FAAAS was in Singapore. His education was B.Sc. (1946) from University College, Travancore University, Trivandrum, Kerala, India after his M.Sc, (1954) Ph.D. (1956) Royal Institute of Science, Mumbai, India. Later he started Research Officer, (1958-1960) All-India Institute of Medical Sciences, New Delhi, India; Fulbright Scholar and McCollum-Pratt Fellow,(1960-19963) The Johns Hopkins University, Baltimore, Maryland; Head of Medical Research,(1963-1983) Sinai Hospital of Baltimore, Inc; Research Scientist (1983-1998), Fellow, American Association for the Advancement of Science, Beltsville Human Nutrition Research Center, ARS, USDA, Beltsville, Maryland; Founding President and CEO, (2000) NonInvasive Technologies LLC, Elkridge, Maryland; Adjunct Professor of International Health, Johns Hopkins University Bloomberg School of Public Health, Baltimore, Maryland, Roll of Honor, Institute of Science, Bombay declared by the Hon. V. V. Giri, President of India.