5th International Conference on
HUMAN GENETICS AND GENETIC DISEASES
&
11th International Conference on
GENOMICS AND PHARMACOGENOMICS
September 21-22, 2018 | Philadelphia, USA

Clinical absolute quantification assay for non-invasive detection of Plasmacytoma variant translocation 1-derived transcripts

Gargi Pal[1] and **Olorunseun O Ogunwobi**[1,2]
[1]Hunter College of The City University of New York, USA
[2]Cornell University, USA

Cancer is the second most common cause of deaths in the United States. One of the most important susceptibility loci for cancer is the 8q24 human chromosomal region. The non-protein coding gene locus Plasmacytoma Variant Translocation 1 (PVT1) is located at 8q24 and is dysregulated in many cancers, as well as immune diseases like vitiligo and asthma. PVT1 has at least 12 exons that make separate transcripts which may have different functions. In this study we have developed a patent-pending real-time quantitative polymerase chain reaction-based assay for absolute quantitation of PVT1 exons 9, 4A, 4B to enable accurate, reproducible, and quantifiable detection. Standards were developed for the creation of a linear standard curve representing a broad range of concentrations. The efficacy of this assay was evaluated by quantitatively measuring detection of these transcripts in different cancer cell lines, human tissues, human serum, and mouse plasma samples. The results indicate that the assay can be used to quantify both low and high copy numbers. This is the first report of developing a clinical assay for reproducible and non-invasive detection of PVT1-derived transcripts. This clinical-grade assay is found to be accurate, reproducible, and useful in detecting the level of PVT1-derived transcripts in different samples. This novel assay is a sensitive and suitable assay which can be used for routine non-invasive clinical testing.

Biography

Gargi Pal has her expertise in molecular biology, cell biology and passion for improving the health, and wellbeing. She takes pride in communicating and advocating for science. Now she is working on Prostate cancer, which is the most commonly diagnosed cancer as well as the greatest source of cancer-related mortality in males of African ancestry (MoAA). She and Dr. Ogunwobi have developed a clinical grade assay, which can be used for the accurate quantitative detection of prostate cancer and several other diseases associated with dysregulation of Plasmocytoma variant translocation 1 (PVT1) transcripts.

gargi.genetics@gmail.com

Notes: