

# Gas5 IncRNA Biomarker Signature for Prediction and Management of Diabetes

**R**esearchers at the University of South Florida have identified a non-invasive RNA-based biofluid marker that may be predictive of diabetes and long-term diabetic complications. This technology can be easily integrated into routine care to assess the risk of developing diabetes before the onset of diabetes.

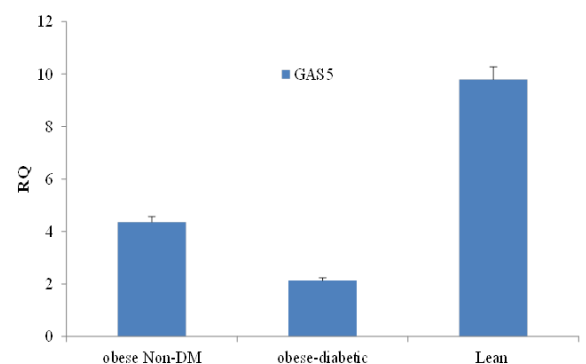
Diabetes prevalence is increasing substantially with obesity and lifestyle changes in the world. In the United States, it is estimated that 79 million people have pre-diabetes, and 1 in 4 individuals have un-diagnosed states of diabetes. While there are several approaches and drugs available to manage the disease, little is known about genomic input on susceptibility and prevention. This has led to an ongoing effort to find methods of predicting the disease long before onset and for managing the condition long-term.

Our inventors have identified GAS5, an RNA-based biofluid marker for prediction and management of diabetes. GAS5 is a long non-coding RNA that has been found to have markedly reduced levels in serum from diabetic patients. Testing has demonstrated that GAS5 directly affects multiple insulin-responsive genes related to glucose metabolism and uptake. This study also establishes GAS5 as an circulating biomarker in blood, saliva and urine for early detection and diagnosis of pre-diabetes and in diabetes control. The invention is non-invasive and can be efficiently incorporated into standard care for diabetes.

### ADVANTAGES:

- Establishes GAS5 a circulating biomarker in blood, urine, or saliva
- Easy integration into routine care to assess risk of developing diabetes
- Non-invasive biomarker that predicts pre-diabetic and diabetic conditions

### *Biomarker for Early Detection/Diagnosis of Pre-Diabetes and Diabetes Management*



### *qPCR Analysis of Gas5 from Obese Non-Diabetic, Obese-Diabetic and Lean Non-Diabetic Subjects*

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