# "DENND1A ISOFORM 2 AS A DIAGNOSTIC MARKER AND THERAPEUTIC TARGET FOR POLYCYSTIC OVARY SYNDROME (PCOS)"

VCU #12-049

## Applications

- Polycystic ovary syndrome
- Diagnostic marker
- Therapeutic target

## Advantages

- Single, cost effective test
- Less invasive diagnosis (oral mucosa)
- Potential for companion diagnostic/therapeutic target


## Inventors

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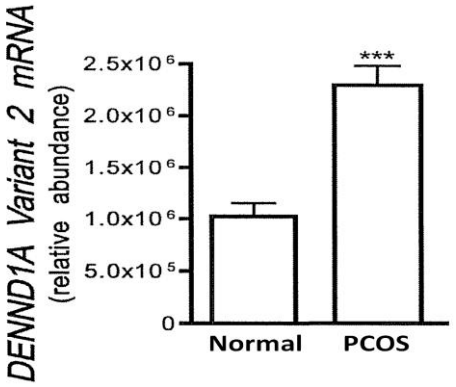
## Market Need

Polycystic ovary syndrome (PCOS) is a genetic disorder that affects 5-7% of reproductive aged women causing menstrual disorder, infertility, high levels of masculinizing hormones and metabolic syndrome. Current treatment focuses on symptom management and must be tailored to each individual (mainly improving infertility and insulin resistance). For the most part, PCOS women are difficult to diagnose, and numerous expensive biochemical tests (including hormone and glucose levels) are necessary for the diagnosis and treatment of PCOS.

## Technology Summary

Based on genetic studies of PCOS women and normal women, Dr. Strauss and Dr. McAllister identified DENN domain-containing protein 1A (DENND1A) isoform 2 specific mRNA as a new biomarker for PCOS. Measuring the elevated mRNA levels of this gene in whole blood or oral mucosa will allow for a cost effective and less invasive diagnosis of PCOS. DENND1A isoform 2 can be used not only as a diagnostic marker, but also as a therapeutic target providing new treatment potential for women with POCS. This opens the door for development of therapeutic drugs that can directly block DENND1A isoform 2's ability to convert normal cells into this specific PCOS phenotype.




Expression of DENND1A Variant 2 in theca cells isolated from control individuals (Normal) and women with PCOS.

## Technology Status

Patent pending: U.S. and foreign rights are available.

This technology is available for licensing to industry for further development and commercialization.