

## Targeting DENND1A Isoform 2

A novel therapeutic target for polycystic ovary syndrome

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 in women is difficult to diagnose, and numerous expensive biochemical tests are necessary for the diagnosis and treatment of PCOS.

### The technology

Based on genetic studies of PCOS women and normal women, researchers at VCU have identified DENN domain-containing protein 1A (DENND1A) Variant 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 variant 2 can be used not only as a diagnostic marker, but also as a therapeutic target providing new treatment potential for women with PCOS. This opens the door for development of therapeutic drugs that can directly block DENND1A variant 2's ability to convert normal cells into this specific PCOS phenotype.

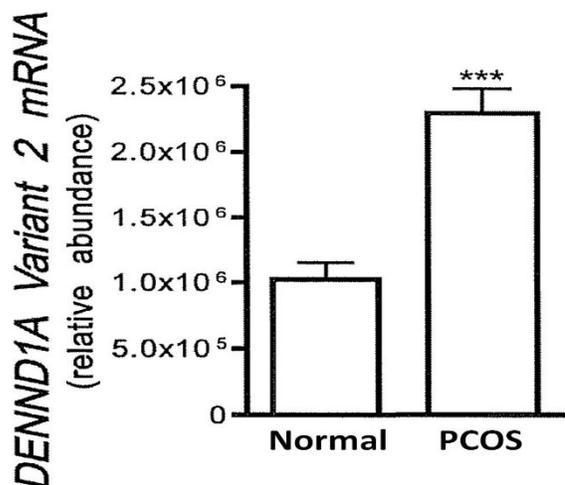


Figure 1. Expression of DENND1A Variant 2 in theca cells isolated from control individuals (Normal) and women with PCOS.

### Benefits

- » Single cost-effective test
- » Less invasive diagnostic method
- » Companion diagnostic and therapeutic target

### Applications

- » Polycystic ovary syndrome therapeutic and diagnostic target

#### Patent status:

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

Patent No. [9,957,567](#)

#### License status:

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

#### Category:

Biomedical

#### VCU Tech #:

12-049

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