

## AGPAT5 as a Molecular Mediator of Insulin Resistance

Tech ID: 29036 / UC Case 2014-730-0

### SUMMARY

UCLA researchers in the Departments of Medicine and Cardiology have identified a novel gene and pathway in the regulation of insulin sensitivity and discovered an inhibitor of this gene useful for treating AGPAT5-related diseases.

### BACKGROUND

Insulin resistance (IR), a condition in which the body's cells fail to respond to insulin, is a significant worldwide health problem and leads to diseases such as Type-II diabetes, coronary artery disease, and fatty liver disease. The identification of efficacious therapies to improve insulin sensitivity is essential to the treatment of these metabolic diseases and conditions. However, the genetic factors that control and the variation of genetic factors that contribute to IR have not been well studied.

### INNOVATION

UCLA researchers have identified a genetic variant, AGPAT isoform 5 (AGPAT5), that contributes to the development of insulin resistance in mouse models. Furthermore, they have developed an inhibitor and methodology for reducing expression of AGPAT5 mRNA and protein in vivo, allowing for the regulation of insulin and insulin sensitivity.

### APPLICATIONS

- ▶ Diagnostic marker of insulin resistance
- ▶ Regulation of insulin resistance
- ▶ Treatment of diabetes and other cardiometabolic diseases

### ADVANTAGES

- ▶ Help to reverse insulin resistance
- ▶ Treatment of conditions requiring regulation of insulin sensitivity

### PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,364,433	07/30/2019	2014-730

### RELATED MATERIALS

- ▶ Parks, Brian W., et al. "Genetic Architecture of Insulin Resistance in the Mouse." *Cell Metabolism* 21, 334. (2015).

### ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Myeloperoxidase-Deficient Mouse](#)
- ▶ [Development Of A Method For Endocrine Network Discovery Uncovers Peptide Therapeutic Targets](#)

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### INVENTORS

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### OTHER INFORMATION

#### KEYWORDS

diabetes, metabolic diseases, genetic diseases, insulin resistance, cardiometabolic disease, coronary artery disease, cardiovascular, obesity, metabolic syndrome

#### CATEGORIZED AS

- ▶ **Medical**
  - ▶ [Disease: Cardiovascular and Circulatory System](#)
  - ▶ [Disease: Genetic Diseases and Dysmorphic Syndromes](#)
  - ▶ [Disease: Metabolic/Endocrinology](#)
  - ▶ [Therapeutics](#)

#### RELATED CASES

2014-730-0

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