



## **Novel PPAR-Gamma Modulators for the Treatment of Metabolic Disorders**

### **INVENTION:**

PPAR gamma is a member of the nuclear receptor superfamily that includes receptors for the steroid, thyroid, and retinoid hormones. Like other members of this family, PPAR gamma contains a central DNA-binding domain that binds to cis-acting elements in the promoter of its target genes. The conversion of fibroblasts into cells of the adipose lineage is induced by expression of the orphan nuclear receptor peroxisome proliferator activated receptor-gamma (PPAR-gamma). Accordingly, an endogenous PPAR-gamma ligand may be an important regulator of adipogenesis. This invention reveals PPAR-gamma as a drug target and relates to a class of compounds that are capable of selectively modulating processes mediated by PPAR-gamma. The identification of such compounds makes possible the selective intervention in PPAR-gamma mediated pathways, without exerting inadvertent effects on pathways mediated by other PPAR isoforms.

### **APPLICATIONS:**

- Prevention of obesity
- Treatment for diabetes

### **ADVANTAGES:**

- Selective intervention in PPAR gamma-mediated pathways
- Eliminates unwanted effects on pathways mediated by other PPAR isoforms

### **STAGE OF DEVELOPMENT:**

Preclinical studies in animals are completed

### **BACKGROUND:**

Obesity, an excessive accumulation of adipose tissue, is a common disorder that affects more than 30% of Americans. As obesity is associated with the development of serious medical conditions, including noninsulin-dependent diabetes mellitus (NIDDM), hypertension, coronary artery disease, hyperlipidemias and certain malignancies, it is important that compounds to control adiposity are identified. Obesity is characterized by an increase in the number or size of adipocytes. One of the earliest events in the differentiation of an adipocyte is the expression of gamma form of the peroxisome proliferator activated receptor (PPAR) gamma. PPARs are structurally diverse group of compounds which when administered to rodents lead to dramatic increase in the size and number of hepatic and renal peroxisomes. There are several isoforms of PPARs such as PPAR-alpha, -beta, -gamma, and -delta.

**INVENTORS:** Drs. Ronald Evans & Barry Forman

**PATENT STATUS:** U.S. Patents 6,022,897 and 6,830,882

**PUBLICATIONS:** Brun, et al. (1996), Genes Dev., 10:974-84

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**TECHNOLOGY ID:** RD9405