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## P R Raghavan

Nanorx Inc., USA

### **METADICHOL® A NOVEL NANO LIPID EMULSION: *GPR120* AGONIST AGAINST INSULIN RESISTANCE**

**M**etadichol (US patent 8,722,093) is a nano emulsion of long-chain alcohols found in many foods. It is commonly called policosanol and is present in foods such as rice, sugar cane, wheat and peanuts. Metadichol acts on nuclear vitamin D receptors (VDR) (US patent 9,006,292) that are present in cells throughout the body to stimulate the immune system and inhibit a variety of disease processes. Vitamin D deficiency has been shown to alter insulin synthesis and secretion in both humans and animal models. Downfield effects of VDR lead to *GPR120* agonist activity with an EC<sub>50</sub> of 3.3 ug/ml when compared with the known agonist *GW9508*. The anti-inflammatory effect of *GPR120* stimulation promotes insulin sensitivity. Metadichol® treatment of ZDF rats showed a reduction of fasting glucose levels and decreased insulin resistance. Also, we have demonstrated that it increases insulin production and also reduces insulin in cases of hyperinsulinemia. Case studies of type 1 and type 2 diabetes and gene expression analysis will also be presented. Anti-diabetic activity of Metadichol® in ZDF rats showed reduction in fasting glucose levels and decreased insulin resistance. In addition, it increases insulin production and also reduces insulin in cases of hyperinsulinemia. Case studies of type 1, type 2 diabetes and gene expression analysis will also be presented. Metadichol consists of natural components of common foods and has no known negative side effects; Metadichol has the potential to serve as a novel, treatment for insulin related diseases. It has the potential to serve as a novel treatment for diabetes related diseases that confront public health today.

#### **Biography**

P R Raghavan is the CEO of Nanorx Inc., and has a PhD in Organic Chemistry from Oregon State University (1979). He has done his MS in Chemistry (1972) from IIT Mumbai, India. He has worked on Drug Discovery for over 25 years at Columbia University; Max-Planck Institute, Germany; Ciba-Geigy (now Novartis), and Boehringer Ingelheim.

[raghavan@nanorxinc.com](mailto:raghavan@nanorxinc.com)