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Natural products to treat Type II diabetes that acts as agoinsnts for Adiponectins and leptins a possible way of reducing insulin resistance through PPAR Pathway

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As a major tissue for whole-body energy homeostasis, adipose tissue integrates both central and peripheral metabolic signals that orchestrate energy balance. An imbalance between energy intake and energy expenditure leads to the expansion of adipose tissue, characterized by a combination of cell proliferation (hyperplasia) and cell size increase (hypertrophy). A complex and yet incompletely defined series of transcriptional events represents the fundamental biological mechanism through which multipotent mesenchymal precursor cells become committed to the adipocyte lineage and exhibit the typical markers of mature fat cells. Identifying the mechanisms that control differentiation of adipose cells would provide clues for designing comprehensive therapeutic strategies for the prevention and treatment of adipose tissue expansion and its associated clinical disorders, including hyperlipemia, hypertension, and type 2 diabetes. Recently, several different transcriptional factors have been identified as regulators of the expression of a set of genes involved in glucose and lipid metabolism. Among them, peroxisome proliferator activated receptors (PPARs), belonging to the superfamily of nuclear receptors (NRs), have been shown to play a central role in the transcriptional control of genes encoding proteins involved. As an agonist the ligand should have more affinity towards the protein target and less inhibitory coefficient (K_i). Many natural products are avalibale in market to treat Type II diabetes but their mechanism of action is poorly understood. TZD's and other drugs that act as agonists for PPAR pan have got lot of side effects and many of them been withdrawn from market. In the present study we have investigated many natural products that act as PPAR Pan agaonists which has more affinity and less inhibitory coeffient values and can be future medicines for Type II diabetes without inducing any side effects as TZD's.

Biography

M.Hemanth kumar has completed his PhD at the age of 33 years from Techno global University a. He is the Research Head of patanjali organization. He has published more than 25 papers in reputedjournals

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