PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR (PPAR)

Abstrak:

Peroxisome proliferator-activated receptor (PPAR) is a group of transcription factors that elaborates correlation between lipid or glucose availability with long-term metabolic adaptation. It has been recently recognized that there are three PPAR isoforms, PPARα, PPARγ, and PPARδ/β, signaled by different genes. PPAR has an important role in lipid and carbohydrate metabolism as well as regulating glucocorticoid action and inflammatory cytokines. Peroxisome proliferator-activated receptor alpha (PPARα) is expressed in hepatocyte, cardiomyocyte, renal cortex, skeletal muscle, and enterocyte. PPARγ is particularly expressed in adipose tissue and immune cells, while PPARδ is ubiquitously expressed in various sites, even in higher amount than the two other PPARs. PPARα activation may increase fatty acid oxidation in heart, liver and, in lesser degree, in skeletal muscle. PPARα activation also induces glucose saving through the increase of PDK4 expression or, indirectly, through the increase of keton bodies synthesis and fatty acid oxidation capacity. The increase of the latter elaborates the lipid-lowering effects of fibric acid and in certain circumstances improves insulin sensitivity by reducing lipid accumulation in tissues.

Keyword:

PPARs, insulin sensitivity, β-oxidation