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Key words: Type 2 Diabetes; Insulin resistance; Hyperglycemia; Vitamin K1; SIRT1/AMPK; Hepatic glucose metabolism

The abbreviations used are: AMPK, AMP activated protein kinase; CPT1A, carnitine palmitoyltransferase 1A; GK, glucokinase, G6P, glucose 6 phosphate; G6Pase, glucose 6 phosphatase; GGCX, gamma glutamyl carboxylase; GHb, glycated hemoglobin; GLUT2, glucose transporter 2; IL-6, interleukin 6, MCP-1, monocyte chemoattractant protein-1;NF-κB, nuclear factor kappa B; PI3K, phosphoinositide 3-kinase; PPARα, peroxisome proliferator-activated receptor alphα; PTEN, phosphatase and tensin homolog; SIRT1, sirtuin 1; ucMGP, uncarboxylated matrix gla protein; VK1, vitamin K1; VKOR, vitamin K epoxide reductase