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Erkan Yilmaz

Ankara University, Turkey

The role of glutamine transport and metabolism in the insulin resistance and endoplasmic reticulum stress

Glutamine metabolism in insulin resistance mechanisms are not well understood yet. In some cases glutamine can be used as fuel, levels of glutamine in tissues and circulation can be effective in the regulation of cellular responsiveness to insulin and cellular metabolism. We aimed to reveal a possible relationship between glutamine metabolism and endoplasmic reticulum stress in insulin resistance. Fat and liver tissues of Ob/Ob mice, increased endoplasmic reticulum stress, increased insulin resistance and decreased glutamine transporter (ASCT2) and glutamine signaling (mTOR, LAMC1, GCN2) observed. Glutamine is an important metabolite in the regulation of energy requirements and cellular homeostasis in the cell. And in insulin resistance in the process of adaptation to the new use of glutamine as a fuel, one of signaling molecules is likely to be.

Biography

Erkan Yilmaz has completed his PhD at the Gazi University and Postdoctoral studies from Harvard School of Public Health. He is Associate Professor at Ankara University, Biotechnology Institute. He has published 30 papers in reputed journals and more than 6000 citations.

eyilmaz@ankara.edu.tr

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