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Titel des Beitrags:
Bcl10 links saturated fat overnutrition with hepatocellular NF-κB activation and insulin resistance.

Abstract:
Excess serum free fatty acids (FFAs) are fundamental to the pathogenesis of insulin resistance. With high-fat feeding, FFAs activate NF-κB in target tissues, initiating negative crosstalk with insulin signaling. However, the mechanisms underlying FFA-dependent NF-κB activation remain unclear. Here, we demonstrate that the saturated FA, palmitate, requires Bcl10 for NF-κB activation in hepatocytes. Uptake of palmitate, metabolism to diacylglycerol, and subsequent activation of protein kinase C (PKC) appear to mechanistically link palmitate with Bcl10, known as a central component of a signaling complex that, along with CARMA3 and MALT1, activates NF-κB downstream of selected cell surface receptors. Consequently, Bcl10-deficient mice are protected from hepatic NF-κB activation and insulin resistance following brief high-fat diet, suggesting that Bcl10 plays a major role in the metabolic consequences of acute overnutrition. Surprisingly, while CARMA3 also participates in the palmitate response, MALT1 is completely dispensable, thereby revealing an apparent nonclassical role for Bcl10 in NF-κB signaling.

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