

Heterogeneous expression of suppressor of cytokine signalling 2 (SOCS-2) in liver tissue.

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Abstract

Suppressor of cytokine signalling 2 (SOCS-2), a dual effector of growth hormone signalling, was found to be heterogeneously expressed in murine liver parenchyma. Data from Affymetrix gene arrays, confirmed by quantitative RT-PCR using preparations of periportal and pericentral hepatocyte subpopulations as well as immunohistochemical detection, showed a preferential expression of SOCS-2 in pericentral hepatocytes. Stimulation of cultured periportal and pericentral hepatocyte subpopulations by different concentrations of growth hormone for 1 h resulted at 100 ng mL⁻¹ in a 1.6-fold and 4.3-fold increase of SOCS-2 mRNA, respectively. Likewise, insulin-like growth factor-1, another physiological target of growth hormone, was stimulated preferentially in pericentral hepatocytes. As growth hormone receptor was found to be homogeneously expressed in mouse liver parenchyma, our data indicate that growth hormone signalling downstream of growth hormone receptor is more sensitive and/or effective in pericentral than in periportal hepatocytes. Presumably, the heterogeneous distribution of SOCS-2 may contribute to the pericentral preference of growth hormone action via differential feedback.

Involved units

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