Autophagy mediates tumor necrosis factor-?-induced phenotype switching in vascular smooth muscle A7r5 cell line

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 Vascular smooth muscle cells (VSMC) dedifferentiation from a contractile to a synthetic phenotype contributes to atherosclerosis. Atherosclerotic tissue has a chronic inflammatory component with high levels of tumor necrosis factor-? (TNF-?). VSMC of atheromatous plaques have increased autophagy, a mechanism responsible for protein and intracellular organelle degradation. The aim of this study was to evaluate whether TNF-? induces phenotype switching of VSMCs and whether this effect depends on autophagy. Rat aortic Vascular smooth A7r5 cell line was used as a model to examine the phenotype switching and autophagy. These cells were stimulated with TNF-? 100 ng/mL. Autophagy was determined by measuring LC3-II and p62 protei