

Cardiac fibroblast cytokine profiles induced by proinflammatory or profibrotic stimuli promote monocyte recruitment and modulate macrophage M1/M2 balance in vitro

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© 2016 Elsevier Ltd Macrophage polarization plays an essential role in cardiac remodeling after injury, evolving from an initial accumulation of proinflammatory M1 macrophages to a greater balance of anti-inflammatory M2 macrophages. Whether cardiac fibroblasts themselves influence this process remains an intriguing question. In this work, we present evidence for a role of cardiac fibroblasts (CF) as regulators of macrophage recruitment and skewing. Adult rat CF, were treated with lipopolysaccharide (LPS) or TGF- β 1, to evaluate ICAM-1 and VCAM-1 expression using Western blot and proinflammatory/profibrotic cytokine secretion using LUMINEX. We performed in vitro migration and adhesion assays of rat spleen monocytes to layers of TGF- β 1- or LPS-pretreated CF. Finally, TGF- β 1- or LPS-pretreated CF were co-cultured with monocyte, to evaluate their effects on macrophage polarization, using flow cytometry and cytokine secretion. There was a significant increase in monocyte adhesion to LPS- or