Comparison of biocompatibility for the scaffolds between in vivo and in vitro

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Scaffolds were knitted with silk or PGA thread and the average efficiency of cell attachment was 35 ± 4%, and 17 ± 2% in the PGA and silk scaffold groups. After 21 days in culture, the average cell density on the silk scaffold was 5.8 x 105 cells, and the average cell density of the PGA scaffolds was 6.34 x 105 cells. The immune response of in vitro cultured PBMCs was significantly higher with the PGA scaffold than with the silk scaffold. The proliferation of the PBMCs cultured on the PGA scaffold was 2 times greater than that of those cultured on the silk scaffold after 3 days of culture. In addition, the secretion of IL-1 by the PBMCs cultured on the PGA scaffold was superior to that of the PBMCs cultured on the silk scaffold. The secretion of IL-1β and IFN-γ was increased by about 50% when the PBMCs were cultured with the PGA scaffold.