Cultured Human Dendritic Cells

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Phase contrast microscopy ($\times 3,200$) of mature, highly immuno-stimulatory dendritic cells derived from progenitors in human peripheral blood. The cells were obtained by culturing lymphocyte-depleted peripheral blood mononuclear cells for several days in the presence of cytokines (interleukin-4 and GM-CSF). These methods, which are presently being refined and optimized, circumvent the problems of the very low frequency of dendritic cells in all organs including blood and thus, for the first time, make dendritic cells amenable to clinical use. An area of intense research (and hope) is the application of dendritic cells for immunotherapy, particularly in cancer. Since these dendritic cells express receptors for IgE, they will also be of interest in allergy.