The amino acid sequence of human interleukin-10 (IL-10) is as follows (26):

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1   mhssallccl  vlltgvrasp  gqgtqsensc  thfpgnlpnm  lrdlrdafsr  vktffqmkdq
61  ldnlllkesl  ledfkgylgc  qalsemiqfy  leevmpqaen  qdpdikahvn  slgenlktlr
121 lrlrrchrfl  pcenkskave  qvknafnklq  ekgiykamse  fdifinyiea  ymtmkirn
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Cytokines are about the same size as peptide hormones, such as cholecystokinin (27, 28) which has 115 amino acids, and adiponectin (29,30) a 244 amino acid hormone.

For every disease that is mediated by cytokines, two types of drugs can be designed. The first type of drug binds directly to the cytokine, and prevents the cytokine from binding to its receptor, thereby preventing the cytokine from transmitting a signal that contributes to the pathology of the disease in question. The second type of drug binds directly to the receptor, again preventing the cytokine from binding to its receptor.

d. Cells of the immune system

The immune system comprises various cells, including dendritic cells (DCs), T cells, B cells, NK cells, macrophages, Kupffer cells, microglia, and neutrophils. Kupffer cells (31) are resident macrophages that are part of the liver and do not circulate in the bloodstream, while microglia (32) are macrophages of the central nervous system (CNS).

In diagrams, all of these cells may be represented as a circle. Usually, though, dendritic cells are drawn in the shape of a starfish, because dendritic cells have dendrites or branches (33,34). There are two lineages of dendritic cells, the myeloid DCs and plasmacytoid DCs. The former type of DC resembles a starfish, while the latter is round (35). The long dendrites of DCs are believed to contribute to the remarkable efficiency by which DCs take up, process, and present antigen to T cells (36).

Immune response, as it applies to infections, cancer, inflammatory disorders, and autoimmune diseases, involves the following chain of events. Dendritic cells take up antigens, and present the antigens to T cells, where the result is an activated T cell. In turn, the activated T cell proliferates, resulting in an increased population of T cells

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