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ISS 1018 CpG Oligodeoxynucleotide

National Cancer Institute

Source

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A short, synthetic, unmethylated CpG motif-based oligodeoxynucleotide (CpG ODN) with immunostimulatory activity. As an immunostimulatory sequence (ISS) that signals through Toll-like receptor 9 (TLR9), ISS 1018 CpG ODN induces the production of immunoglobulin by B cells and interferon (IFN) -alpha, IFN-beta, interleukin (IL) -12, and tumor necrosis factor (TNF) -alpha by plasmacytoid dendritic cells (pDC). pDC, through cell-cell contact, and IFN-alpha and -beta, in turn, induce natural killer (NK) cell proliferation, NK cell production of IFN-gamma, and NK cell-mediated cytotoxicity; secreted IFNs also stimulate bystander T cell activation and differentiation of naive CD4+ T cells into T-helper 1 cells on specific antigen challenge. In addition, ISS 1018 CpG ODN promotes antigen presentation and co-stimulatory molecule expression.