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Immunomodulatory Oligonucleotide HYB2055

National Cancer Institute

Source

National Cancer Institute. *Immunomodulatory Oligonucleotide HYB2055*. NCI Thesaurus. Code C49182.

A second generation synthetic oligonucleotide with immunomodulatory and potential antineoplastic activities. HYB2055 consists of unmethylated CpG dinucleotide motifs that are present abundantly in bacterial and parasitic DNA, and a novel DNA structure, called an immunomer that contributes to metabolic stability of the agent. Upon infections, CpG-containing DNA released from pathogenic organisms triggers host immune responses, which are mediated by the action of intracellular toll-like receptor 9 (TLR9), a pattern recognition receptor. This agent mimics bacterial DNA and selectively activates TLR9, thereby initiating immune signaling pathways, and leading to activation of B-cells and dendritic cells and induction of Th1-type cytokine production.