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# Resiquimod

National Cancer Institute

## Source

National Cancer Institute. *Resiquimod*. NCI Thesaurus. Code C63958.

An imidazoquinolinamine and Toll-like receptor (TLR) agonist with potential immune response modifying activity. Resiquimod exerts its effect through the TLR signaling pathway by binding to and activating TLR7 and 8 mainly on dendritic cells, macrophages, and B-lymphocytes. This induces the nuclear translocation of the transcription activator NF- $\kappa$ B as well as activation of other transcription factors. This may lead to an increase in mRNA levels and subsequent production of cytokines, especially interferon-alpha (INF- $\alpha$ ) and other cytokines, thereby enhancing T-helper 1 (Th1) immune responses. In addition, topical application of resiquimod appears to activate Langerhans' cells, leading to an enhanced activation of T-lymphocytes. Due to its immunostimulatory activity, this agent may potentially be useful as a vaccine adjuvant.