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STAT3 Inhibitor WP1066

National Cancer Institute

Source

National Cancer Institute. *STAT3 Inhibitor WP1066*. NCI Thesaurus. Code C111042.

An orally bioavailable, small molecule inhibitor of signaling transducer and activator 3 (STAT3), with potential antineoplastic and immunomodulatory activities. Upon administration, STAT3 inhibitor WP1066 blocks the intranuclear translocation of p-STAT, thereby suppressing STAT3 signaling and decreasing the levels of downstream products including c-Myc. Additionally, WP1066 may upregulate costimulatory molecules including CD80 and CD86 on human microglia, and reverse glioma cancer stem cell (gCSC)-mediated innate and adaptive immune suppression allowing for the restoration of antitumor effector immune responses. The STAT3 pathway is overly active in many cancer types and is implicated in CSC-mediated growth, recurrence and resistance to conventional chemotherapies.