

# Immunologic Mechanisms for MS: Overview of Evidence & Potential Targets for Treatment



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Multiple sclerosis (MS) is an autoimmune disease triggered by environmental factors that act on a genetically susceptible host. It features three clinical stages: a pre-clinical stage detectable only by MRI; a relapsing-remitting (RRMS) stage characterized by episodes of neurologic dysfunction followed by resolution; and a progressive stage, which usually evolves from

the relapsing stage. Progressive MS features a compartmentalized immune response in the CNS, involving microglia cells and astrocytes, as well as immune-independent processes that drive axonal dysfunction.

Advances in the understanding of the immune mechanisms that contribute to MS have led to 14 FDA-approved immunotherapeutic drugs that target effector T cells, regulatory cells, B cells, and cell trafficking into the nervous system. This presentation reviews the immune dysregulation as pathogenesis of MS; identify environmental risk factors and their impact on the immune system; examine the mechanism of action of currently available DMTs; and highlight emerging agents along with potential therapeutic targets for further exploration.