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Vedolizumab

National Cancer Institute

Source

National Cancer Institute. *Vedolizumab*. NCI Thesaurus. Code C95798.

A recombinant humanized immunoglobulin G1 (IgG1) monoclonal antibody directed against the human lymphocyte Peyer's patch adhesion molecule 1 (LPAM-1; alpha4beta7; a4b7), with immunomodulating, anti-inflammatory, and potential antineoplastic activities. Upon administration, vedolizumab selectively binds to integrin a4b7 and prevents the binding of a4b7, expressed on the surface of a subset of T-lymphocytes, to its natural ligand, mucosal addressin cell adhesion molecule-1 (MAdCAM-1), which is mainly expressed on the surface of gut endothelial cells. This prevents a4b7-mediated signaling, adhesion of lymphocytes to the endothelium and the migration of T-lymphocytes across the endothelium into inflamed gastrointestinal (GI) tissue. By preventing this infiltration to the affected area, inflammation is reduced. The human lymphocyte a4b7 integrin, plays a key role in gastrointestinal (GI) inflammation; it is overexpressed in certain types of cancer cells. The alpha4beta7/MAdCAM-1 signaling pathway plays a critical role in the homing of T-lymphocytes to intestinal tissue.