Adalimumab

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Diseases are hard to manage and sometimes completely unmanageable. However, thanks to modern medicine and pharmaceuticals, science has bought us a new form of medicine that targets specific diseases at the core; monoclonal antibodies. Monoclonal antibodies (mAbs) are engineered proteins (lab-made) that mimic the natural antibodies in our bodies and involve a type of immunotherapy that can help the body's immune system destroy foreign cells such as cancer cells (2). Though cancer treatment is its more common use, it can also be used in diseases such as Crohn's Disease.

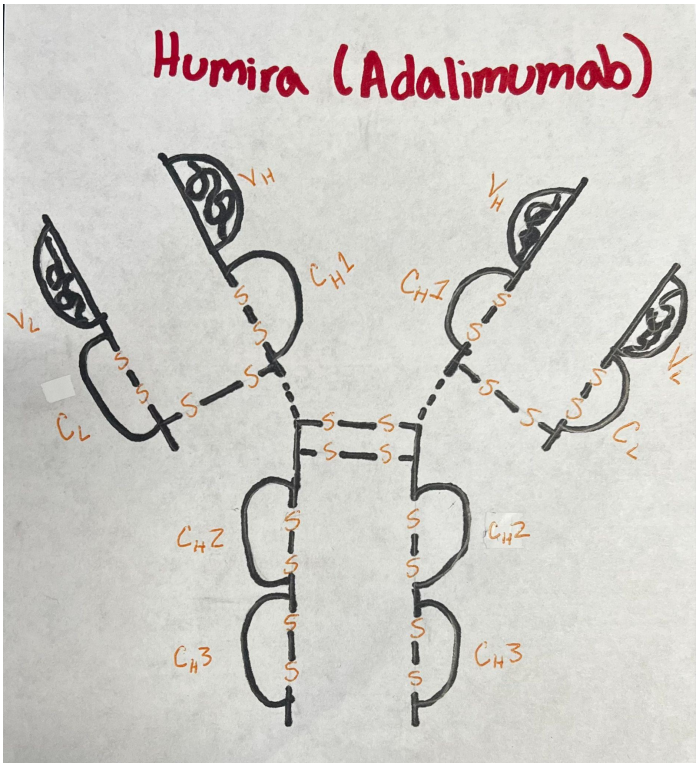
Crohn's disease is an autoimmune inflammatory bowel disease (IBD) that creates inflammation and irritation in the digestive tract when the body fights an immune infection; specifically targeting the small intestine and part of the large intestine. However, the disease has a possibility of expansion throughout the entirety of the digestive tract, from the anus to the mouth. (3)

Though Crohn's disease does not have a direct inherent connection, children whose parents both have Crohn's disease are more likely (35%) to develop it; this disease can be created or disappear at any point in time (5). The drug that utilizes a type of monoclonal antibody associated with the treatment of Crohn's disease is Adalimumab, a tumor necrosis factor-alpha (TNF- alpha) inhibitor that blocks TNF - alpha and prevents from attacking the body's healthy cells and triggering an immune response such as inflammation (5). Adalimumab is an IgG1 monoclonal antibody that specifically binds to TNF-alpha. To distribute the drug, it has to be injected every 2 weeks by Subcutaneous injection; an injection given into the fatty tissue, typically accessed through the abdomen or front of thighs (6).

Its original discovery was in 1995 when scientists were trying to find a drug candidate that binds well to TNF alpha. The drug was then approved for use in 2007 by the United States

for its use in Crohn's disease. Since it has been manufactured primarily under a brand called “Humira”. Though side effects with the use of the drug are widely uncommon, some small discomfort can occur, such as itching, redness, or swelling of the joints. The drug can also be used in the treatment of other conditions such as rheumatoid arthritis, psoriatic arthritis, ulcerative colitis, plaque psoriasis, and hidradenitis suppurativa (4).

Drug structure



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