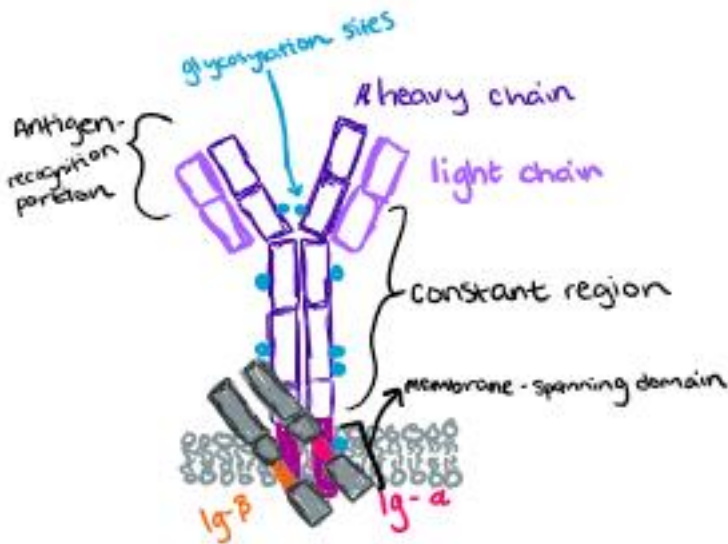


IgM B Cell Receptor



This immunoglobulin M, IgM, is the monomer of the soluble pentameric IgM. The IgM is an antibody secreted by naïve B cells to recognize pathogens then initiate an immune response. IgM is the largest and first antibody in response to a pathogen in the adaptive immune system. The antibody is made up of two light chains and two heavy chains. There is also a heterodimer associated with IgM with Ig-alpha and Ig-beta segments. IgM has 14 glycosylation sites which is significantly more than other antibodies. The glycosylation sites are found on the heavy chains, and on the heterodimer. The antigen recognition portion is the top of the antibody, or the part of the antibody that is the farthest into the extracellular region so that antigens can more easily be reached. The constant region is the middle of the antibody in between the antigen-recognition portion and above the membrane-spanning domain which is in the phospholipid bilayer of a cell. Soluble pentameric IgM is made up of five IgM antibodies with J chains connecting them. This allows the IgM to circulate in the cardiovascular and lymphatic system ready to find pathogens with their antigen-recognition portions pointing outwards. The IgM antibody shown above is anchored in a cell membrane while soluble pentameric IgM is not.