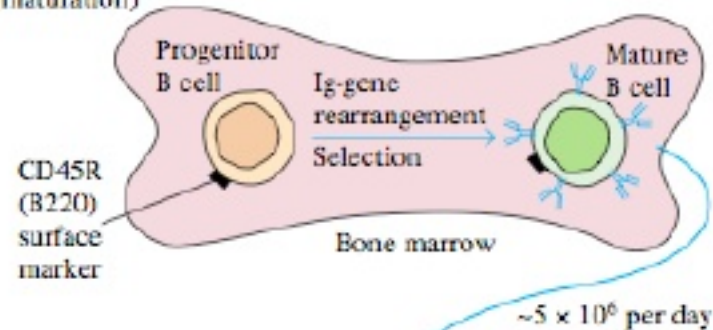


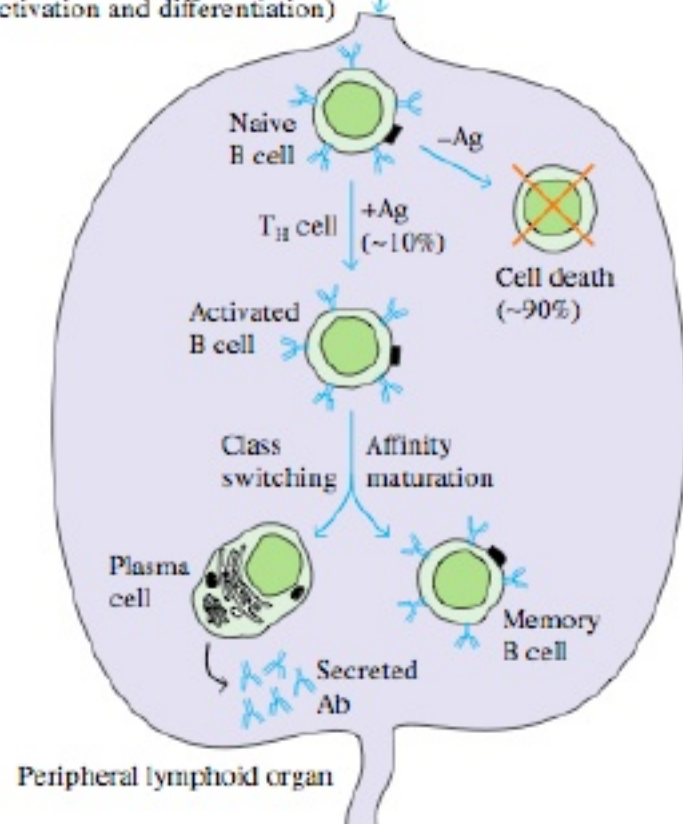
B CELL MATURATION AND DEVELOPMENT

- During B-cell development, sequential Ig-gene rearrangements transform a pro-B cell into an immature B cell expressing mIgM with a single antigenic specificity
- Further development yields mature naive B cells expressing both mIgM and mIgD

ANTIGEN-INDEPENDENT PHASE
(maturation)



ANTIGEN-DEPENDENT PHASE
(activation and differentiation)



membrane-bound immunoglobulin (mIgM and mIgD) with a single antigenic specificity. These mature B-cells circulate in the blood and lymph and are carried to the secondary lymphoid organs, most notably the spleen and lymph nodes. Mature B-cells are ready to encounter antigen, but they are considered naive until they do so.

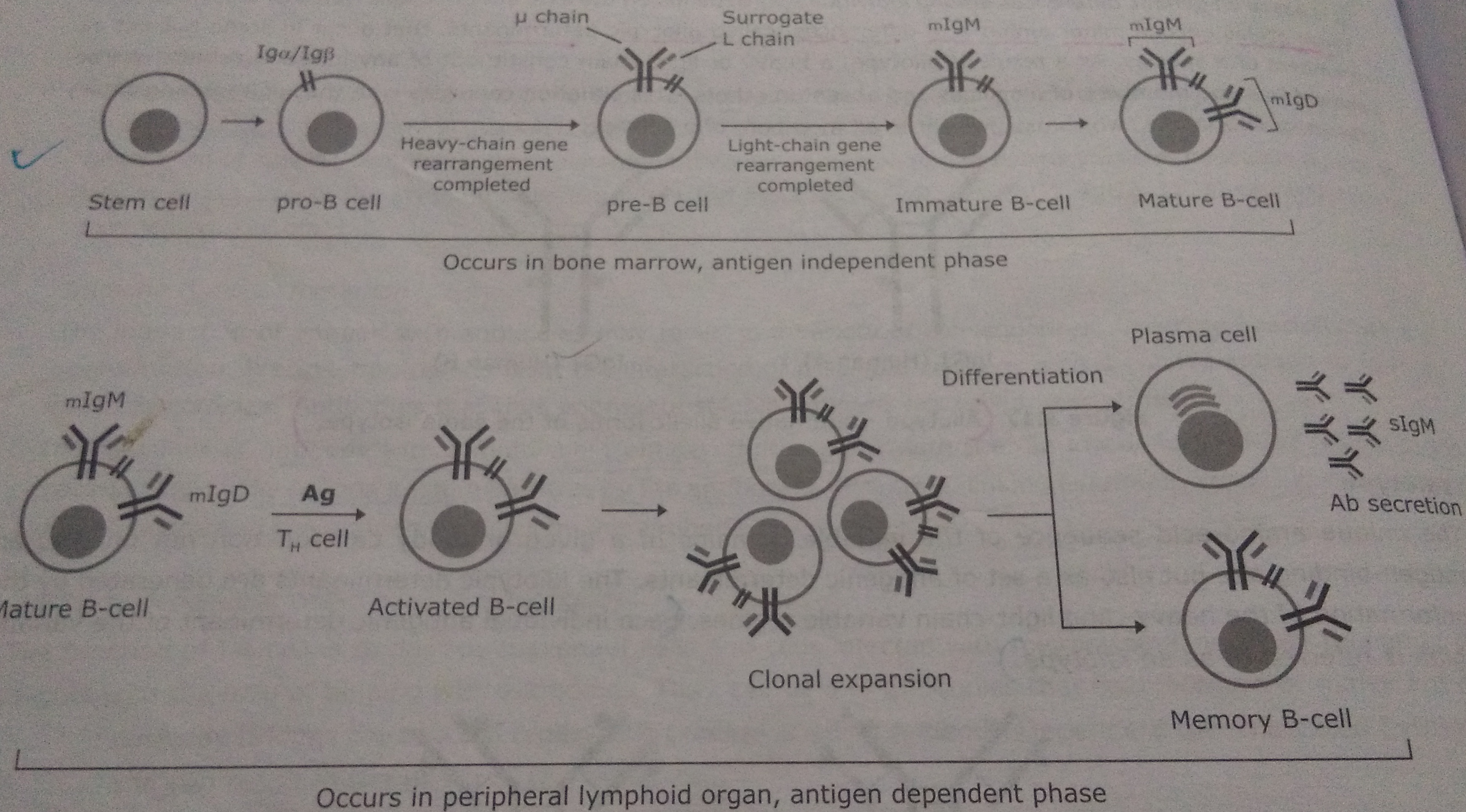


Figure 5.19 The main stages in B-cell development.

the mature B-cells are activated by antigen. On contact with its appropriate antigen, the mature B-cell under

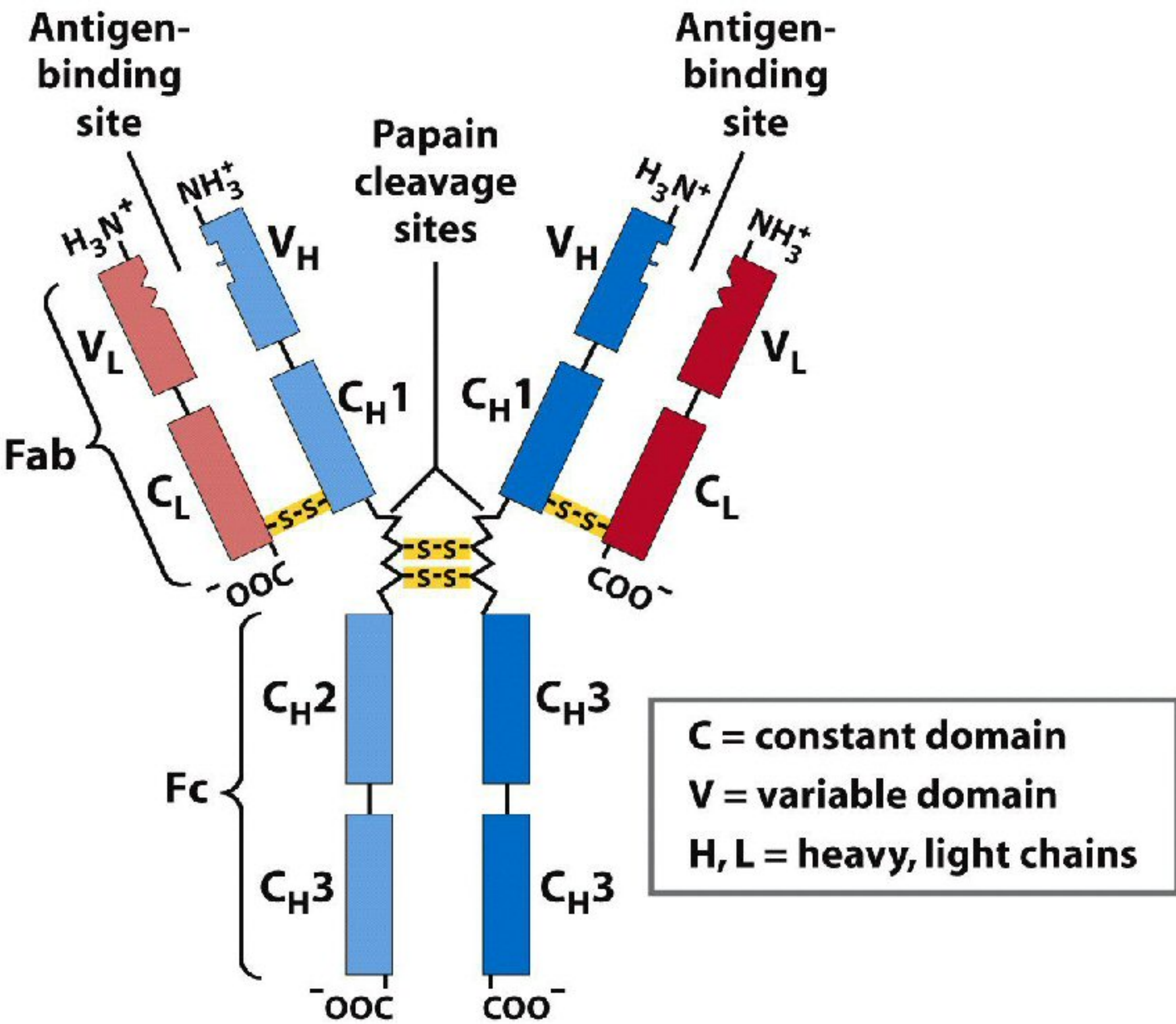


Figure 5-21a
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Function of Antibodies Cont

- **Activation of complement**
- **Increases inflammation** through the byproducts of the complement system (C5a and C3a)
- **Antibody dependant cell mediated cytotoxicity:** Antibodies attached to target cell cause destruction by non specific immune system cells.

