B CELL DEVELOPMENT

- There are 3 stages of B cell negative selection – central, peripheral and during B cell activation.
- You don’t want to narrow the B cell repertoire too much, or you won’t have enough to recognise the wide variety of pathogenic peptides you could be exposed to. Peptides are only tiny fragments so may be similar across foreign and self. This means you can keep B cells with slight self-reactivity.

**NEGATIVE SELECTION**

**DOES THE B CELL RECEPTOR RECOGNISE SELF ANTIGEN?**

- **YES**
  - Cell apoptoses

- **NO**
  - Tested against self-peptide again
  - A little bit
  - Light chain **RECEPTOR EDITING** – The B cell receptor is rearranged to give it “another chance”

**Mature B cell**

Mature B cells can develop into three cell types...

- **Re-circulating follicular B cells** are activated by Th cells to become **plasma cells** – they produce **class switched antibodies** (IgG, A or E)
- **Marginal zone B cells** in the spleen are activated independent of T cells (by DCs via BAFF) and produce mostly IgM antibodies
- **B1 cells in pleura and peritoneum**