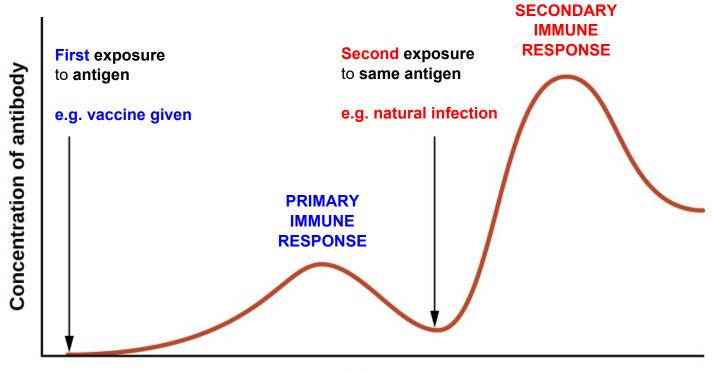
A. VACCINES

- Contain **antigens** from **dead** or **weakened pathogens** that **stimulate** the production of **memory cells**.
- If re-infected by the same pathogen in the future, memory cells clone faster to produce antibodies faster and in a greater amount.



Time

Memory cells produced from first exposure (primary immune response)

Memory cells clone faster from second exposure so more antibodies are produced faster

B. MONOCLONAL ANTIBODIES

They are

- produced from the same clone/type of B cell.
- identical in shape.
- used in cancer treatment, diagnosing diseases (e.g. HIV), home pregnancy tests and drug screening.

How they are produced

