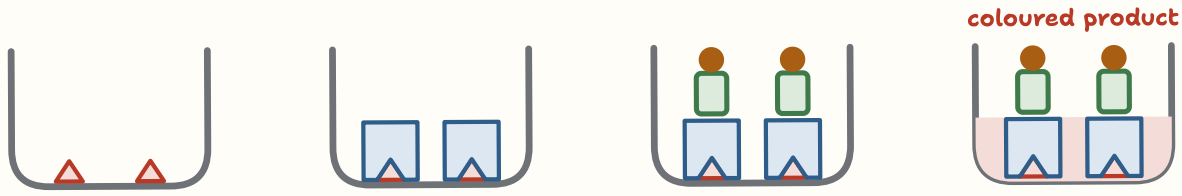
The ELISA Test Explained

ELISA: antigen sticks to the well, a primary antibody binds it, a washed enzyme-linked antibody binds that, and substrate gives a colour change.

ELISA: sandwich, wash, substrate



1 antigen sticks to the well surface

2 primary antibody binds antigen, wash

3 enzyme-linked Ab binds primary, wash

4 add substrate colour change shows antigen is present

orange dot: enzyme

Key terms

ELISA	an enzyme-linked immunosorbent assay: uses antibodies and an enzyme to detect an antigen.
primary antibody	the antibody complementary to the antigen; it binds the antigen.
enzyme-linked antibody	a secondary antibody with an enzyme attached; it binds to the primary antibody.
washing	after each stage, to remove unbound antibody or enzyme and prevent false positives.
substrate	the substance the enzyme converts into a coloured product.
colour change	shows the enzyme is present, so the antigen is present; no colour change means no antigen.

I can...

- [ ] Use of antibodies in the ELISA test

EXAM TRAP

The enzyme-linked antibody binds the primary antibody, not the antigen directly. And never write that you wash to clean the well: say it removes unbound antibody, so only bound antibody gives colour.

5 marks: what earns them

1. Sample added to the well and any antigen sticks / attaches to the surface
   Not: antibodies stick to the well
2. Primary antibody, complementary to (specific to) the antigen, is added and binds to it
   Not: antibody is the same shape as the antigen; binds to any antigen
3. Well is washed after each stage / to remove unbound antibody (so only bound antibody remains)
   Not: to clean the well; washing with no reason
4. Enzyme-linked (secondary) antibody added, which binds to the primary antibody
   Not: enzyme binds to the antigen; enzyme-linked antibody binds directly to the antigen
5. Substrate added, enzyme converts it to a coloured product, so a colour change shows the antigen is present
   Not: it changes colour, with no mention of enzyme and substrate

Remember

Antigen sticks, primary binds, wash.
Enzyme antibody binds primary, wash.
Substrate: colour means antigen.

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