

AS Level Biology A
H020/01 Breadth in Biology

Question Set 20

1. Fig. 25.1 represents the tertiary structure of the enzyme lysozyme.

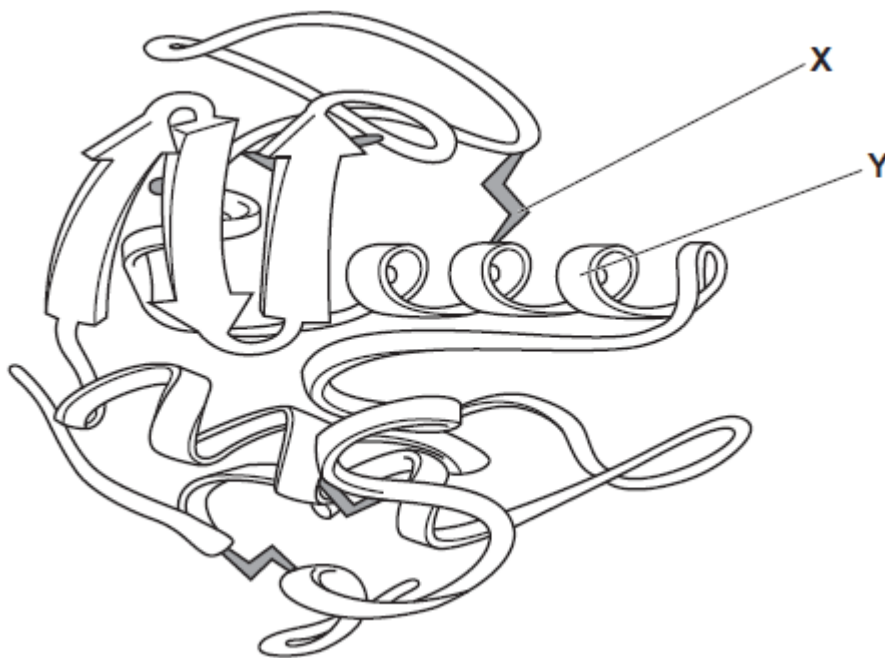


Fig. 25.1

(a) (i) Name the covalent chemical bond labelled **X** which links two cysteine amino acids. **Disulfide bond** [1]

(ii) Name the structure labelled **Y** which forms part of the secondary structure of lysozyme. **Alpha helix** [1]

(iii) Lysozyme consists of a single polypeptide chain of 129 amino acids.

State which level of protein structure is **not** shown by lysozyme.

Quaternary structure [1]

(b) The function of lysozyme is to break down the cell walls of bacteria.

(i) Name the molecule that is found in the cell walls of bacterial cells. **Peptidoglycan** [1]

(ii) Lysozyme is also known as a glycoside hydrolase.

Suggest the type of chemical bond that lysozyme breaks and name the molecule other than the substrate that is needed for this reaction.

Type of bond ... **Glycosidic bond**

Other molecule needed for this reaction ... **Water**

[2]

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