Name:
Date:

WA4 – Mutations and Protein Structure

Download and open the file **1tyn_inhibitor_mutated** using PyMOL. This is a protease protein which is bound to an inhibitor. Protease is an enzyme which breaks down other proteins and polypeptides into shorter strands.

1. Using the following words, describe the relationship between the protease enzyme and the inhibitor.
   Globular protein – active site – metabolise – polypeptides – inhibitor – target substrates – effectively – complementary – lock and key – induced fit – flexibility

2. A DNA change has caused the protein to mutate. Select the **Mutated_Protease** to show the mutation. Predict the effect that this mutation will have on the inhibitor's effectiveness.

3. Explain how a change in the primary structure of polypeptide can stop an inhibitor from binding.

Produced by Adam Stubbs at Newcastle University as part of a summer outreach project.