CLAIMS

1. An ~~binding protein~~antibody that binds specifically to a conformational epitope of the hemagglutinin envelope glycoprotein of an H5 subtype of avian influenza virus that has substantially the immunological binding characteristics of monoclonal antibody 2D9 as produced by hybridoma 2D9 which is deposited with the American Type Culture Collection with Accession Number PTA-9396, wherein said immunological binding characteristics comprise binding to an epitope that is bound by monoclonal antibody 2D9.

2. The ~~binding protein~~antibody of claim 1 which is a monoclonal antibody, a single chain antibody, an antibody fragment, a chimeric antibody or a humanized antibody.

3. The ~~binding protein~~antibody of claim 1 which is a monoclonal antibody.

4. Monoclonal antibody 2D9 as produced by hybridoma 2D9 which is deposited with the American Type Culture Collection with Accession Number PTA-9396.

5. A method for detecting H5 subtype avian influenza virus in a biological specimen which comprises contacting the specimen with an ~~binding protein~~antibody according to claim 1, 2, ~~or~~ 3 or ~~a monoclonal antibody according to claim~~ 4.

6. The method of claim 5 which comprises contacting the specimen with a ~~second~~ binding protein that specifically binds to the envelope glycoprotein of an H5 subtype of avian influenza virus, wherein the ~~first binding protein~~ antibody is a capture ~~binding protein~~ antibody and the ~~second~~ binding protein is a detector binding protein that contains or is conjugated to a detectable element.

7. The method of claim 6 wherein at least one of the antibody and the ~~first and second~~ binding proteins is a monoclonal antibody.

8. The method of claim 6 wherein the antibody and the ~~first and second~~ binding proteins are monoclonal antibodies.

9. The method of claim 6 wherein the ~~first binding protein~~ antibody is immobilized onto a solid surface.

10. The method of claim 6 wherein the ~~second~~ binding protein contains a radioactive atom, is conjugated to a fluorescent molecule, or is conjugated to an enzyme.

11. A kit for detecting H5 subtype avian influenza virus in a biological specimen which comprises ~~a binding protein~~ an antibody according to claim 1, 2, ~~or~~ 3 or ~~a monoclonal antibody according to claim~~ 4, together with at least one reagent for the detection of binding of said ~~binding protein~~ antibody to said envelope glycoprotein.

12. The kit of claim 11 which comprises a ~~second~~ binding protein that specifically binds to the envelope glycoprotein of an H5 subtype of avian influenza virus, wherein the ~~first binding protein~~ antibody is a capture ~~binding protein~~ antibody and the ~~second~~ binding protein is a detector binding protein that contains or is conjugated to a detectable element.

13. The kit of claim 12 wherein at least one of the antibody and the ~~first and second~~ binding proteins is a monoclonal antibody.

14. The kit of claim 12 wherein the antibody and the ~~first and second~~ binding proteins are monoclonal antibodies.

15. The kit of claim 12 wherein the ~~first binding protein~~ antibody is immobilized onto a solid surface.

16. The kit of claim 12 wherein the ~~second~~ binding protein contains a radioactive atom, is conjugated to a fluorescent molecule, or is conjugated to an enzyme.

~~17. A method of treating a frozen tissue specimen infected with H5 subtype avian influenza virus which comprises treating said specimen with an effective amount of a binding protein according to claim 1, 2 or 3 or a monoclonal antibody according to claim 4.~~

~~18~~17. An ~~binding protein~~ antibody according to claim 1, 2, ~~or~~ 3 or ~~a monoclonal antibody according to claim~~ 4 for use in treating a subject infected with H5 subtype avian influenza virus.

~~19~~18. Use of an ~~binding protein~~ antibody according to claim 1, 2, ~~or~~ 3 or ~~a monoclonal antibody according to claim~~ 4 ~~for~~ in the manufacture of a medicament for treating a subject infected with H5 subtype avian influenza virus.

~~20~~19. A neutralization escape mutant of avian influenza virus strain A/Indonesia/CDC669/2006(H5N1) which comprises at least one mutation within the epitope of the HA sequence of said strain recognized by monoclonal antibody 2D9 as produced by hybridoma 2D9 which is deposited with the American Type Culture Collection with Accession Number PTA-9396 such that the mutant virus cannot be neutralized by the antibody.

~~21~~20. The neutralization escape mutant of claim ~~20~~ 19 wherein said mutation is Ser to Arg at amino acid 239.

~~22~~21. The neutralization escape mutant of claim ~~20~~ 19 wherein said mutations are Arg to Trp at amino acid~~s~~ 205 and Ser to Arg at amino acid 239.

~~23~~22. The neutralization escape mutant of claim ~~20~~ 19 wherein said mutations are Pro to Leu at amino acid~~s~~ 157 and Ser to Arg at amino acid 239.

~~24~~23. A neutralization escape mutant of avian influenza virus strain A/Vietnam/1203/2004/H5N1 which comprises at least one mutation within the epitope of the HA sequence of said strain recognized by monoclonal antibody 2D9 as produced by hybridoma 2D9

which is deposited with the American Type Culture Collection with Accession Number PTA-9396 such that the mutant virus cannot be neutralized by the antibody.

~~25~~24. The neutralization escape mutant of claim ~~24~~23 wherein said mutation is Lys to Glu at amino acid 234.