CLAIMS

1. An isolated monoclonal antibody or a fragment thereof that is capable of specifically binding to at least one conformational epitope of Enterovirus 71 (EV71), wherein the antibody has substantially the immunological binding characteristics of monoclonal antibody 1C6.

2. The antibody according to claim 1, wherein the conformational epitope comprises at least one capsid protein.

3. The antibody according to either claim 1 or 2, wherein the conformational epitope is an intact virus capsid.

4. The antibody according to either claim 2 or 3, wherein the capsid protein is VP1, VP2 VP3, VP4 and/or VP0 precursor.

~~5. The antibody according to any one of the preceding claims has substantially the immunological binding characteristics of monoclonal antibody 1C6.~~

~~6.~~5. The antibody according to any one of the preceding claims, wherein the antibody is selected from the group consisting of:

(a) antibody produced by hybridoma cell line CBA20110001;

(b) antibody having the binding characteristics of the antibody produced by hybridoma cell line CBA20110001; and

(c) antibody that binds to an antigen capable of binding the antibody produced by the hybridoma cell line CBA20110001.

~~7. An isolated monoclonal antibody or a fragment thereof, wherein the antibody is capable of specifically binding to at least one epitope capsid protein VP2 of Enterovirus 71 (EV71).~~

~~8. The antibody according to claim 7, wherein the antibody has substantially the immunological binding characteristics of monoclonal antibody 7C7.~~

~~9. The antibody according to either claim 7 or 8, wherein the antibody is selected from the group consisting of:~~

~~(a) antibody produced by hybridoma cell line CBA20110003;~~

~~(b) antibody having the binding characteristics of the antibody produced by hybridoma cell line CBA20110003; and~~

~~(c) antibody that binds to an antigen capable of binding the antibody produced by the hybridoma cell line CBA20110003.~~

~~10. An isolated monoclonal antibody or a fragment thereof that is capable of specifically binding to at least one epitope non-structural protein of Enterovirus 71 (EV71).~~

~~11. The antibody according to claim 10, wherein the non-structural protein is 3CD.~~

~~12. The antibody according to either claim 10 or 11, wherein the antibody has substantially the immunological binding characteristics of monoclonal antibody 4B12.~~

~~13. The antibody according to any one of claims 10 to 12, wherein the antibody is selected from the group consisting of:~~

~~(a) antibody produced by hybridoma cell line CBA20110002;~~

~~(b) antibody having the binding characteristics of the antibody produced by hybridoma cell line CBA20110002; and~~

~~(c) antibody that binds to an antigen capable of binding the antibody produced by the hybridoma cell line CBA20110002.~~

~~14.~~6. The antibody according to any one of the preceding claims, wherein the antibody is at least one human, humanized or chimeric antibody.

~~15.~~7. The antibody according to any one of the preceding claims, wherein EV71 is of genotype selected from the group consisting of A, B2, B4, B5, C1, C2, C4 and C5.

~~16.~~8. The antibody according to any one of the preceding claims, wherein the antibody is labelled with at least one radionuclide and/or fluorochrome.

~~17.~~9. The antibody according to any one of the preceding claims, wherein the antibody is linked with at least one drug, anti-viral drug, and/or toxin.

~~18.~~10. An isolated hybridoma cell line deposited with American Type Culture Collection (ATCC) with accession number CBA20110001, CBA20110003 and/or CBA20110002.

~~19.~~11. A method of detecting and/or quantifying the presence and distribution of at least one EV71 infected cell in a subject, the method comprising:

a. contacting at least one antibody or fragment thereof according to any one of claims 1 to ~~17~~ 9 with at least one sample obtained from at least one subject; and

b. detecting and quantifying binding of the antibody to the EV71 infected cell.

~~20.~~12. The method according to claim ~~19~~11, wherein the step of detecting comprises contacting the sample with a binding protein that contains or is conjugated to a detectable element.

~~21.~~13. The method according to either claim ~~19~~ 11 or ~~20~~ 12 wherein the antibody is immobilized onto a solid surface.

~~22.~~14. The method according to either claim ~~20~~ 12 or ~~21~~13, wherein the binding protein contains a radioactive atom, is conjugated to a fluorescent molecule, or is conjugated to an enzyme.

~~23.~~15. A kit for diagnosing EV71 and/or at least one EV71-linked disease, the kit comprising at least one antibody or a fragment thereof according to any one of claims 1 to ~~17~~9.

~~24.~~16. The kit according to claim ~~23~~15, wherein the EV71-linked disease is at least one disease selected from the group consisting of aseptic meningitis, encephalitis, cranial nerve palsies, Guillan-Barre syndrome, poliomyelitis-like syndrome, and Hand, Foot and Mouth disease.

~~25. A method of treatment of EV71 and/or at least one EV71-linked disease, the method comprising administering to a subject in need thereof at least one antibody or a fragment thereof according to any one of claims 1 to 17.~~

~~26. The method according to claim 25, wherein the EV71-linked disease is at least one disease selected from the group consisting of aseptic meningitis, encephalitis, cranial nerve palsies, Guillan-Barre syndrome, poliomyelitis-like syndrome, and Hand, Foot and Mouth disease.~~

~~27.~~17. An isolated antibody according to any one of claims 1-~~17~~ 9 for use in medicine.

~~28.~~18. An isolated antibody according to any one of claims 1-~~17~~ 9 for use in treating EV71 and/or at least one EV-71 linked disease.

~~29.~~19. The antibody according to claim ~~28~~18, wherein the EV71-linked disease is at least one disease selected from the group consisting of aseptic meningitis, encephalitis, cranial nerve palsies, Guillan-Barre syndrome, poliomyelitis-like syndrome, and Hand, Foot and Mouth disease.

~~30.~~20. Use of an isolated antibody according to any one of claims 1-~~17~~ 9 for the preparation of a medicament for treating EV71 and/or at least one EV-71 linked disease.

~~31.~~21. The use according to claim ~~30~~20, wherein the EV71-linked disease is at least one disease selected from the group consisting of aseptic meningitis, encephalitis, cranial nerve palsies, Guillan-Barre syndrome, poliomyelitis-like syndrome, and Hand, Foot and Mouth disease.

~~32. A method of protecting a subject from EV71 infection comprising administering to the subject at least one antibody or fragment thereof according to any one of claims 1-17 in an amount effective to protect the subject from EV71 infection.~~

~~33.~~22. A pharmaceutical composition comprising the antibody of any one of the preceding claims 1-~~17~~ 9 and a pharmaceutically acceptable carrier.