

CLAIMS

1. An antibody or antibody fragment capable of specifically binding to a human CD73 polypeptide, in which the antibody or antibody fragment comprises a heavy chain variable region (VH) comprising the amino acid sequence of SEQ ID NO: 42 (2H4+ chain), and a light chain variable region (VL) comprising an amino acid sequence selected from the group consisting of SEQ ID NOS: 43 (2L1 chain), 44 (2L2 chain), 45 (2L3 chain) and 46 (2L4 chain).
2. An antibody or antibody fragment according to Claim 1, in which the antibody or antibody fragment comprises a heavy chain variable region (VH) comprising the amino acid sequence of SEQ ID NO: 42 (2H4+ chain) and a light chain variable region (VL) comprising the amino acid sequence of SEQ ID NO: 43 (2L1 chain).
3. An antibody or antibody fragment according to Claim 1, in which the antibody or antibody fragment comprises a heavy chain comprising the amino acid sequence of SEQ ID NO: 47 and a light chain comprising the amino acid sequence of SEQ ID NO: 48.
4. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment is capable of neutralizing the 5'-ectonucleotidase activity of a CD73 polypeptide.
5. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment comprises a heavy chain comprising an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID No: 47 and a light chain comprising an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID No: 48.
6. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment specifically binds to a human CD73 polypeptide at the surface of a cell and that is capable of neutralizing the 5'-ectonucleotidase activity thereof, in which the antibody or antibody fragment inhibits the activity of the human CD73 polypeptide without detectably reducing binding between the CD73 polypeptide and a substrate thereof.
7. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment has reduced binding to a mutant CD73 polypeptide comprising the mutation K136A and/or the mutations A99S, E129A, K133A, E134N, and A135S (with

reference to SEQ ID NO: 1), relative to binding between the antibody or antibody fragment and a wild-type CD73 polypeptide comprising the amino acid sequence of SEQ ID NO: 1.

8. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment comprises an Fc domain of human origin that is modified to reduce binding between the Fc domain and a human Fc γ receptor.
9. An antibody or antibody fragment according to any preceding claim, in which the antibody or antibody fragment comprises a human IgG1 Fc domain comprising amino acid substitutions at residues 234, 235 and 331 or comprising amino acid substitutions at residues 234, 235 and 322 (EU numbering according to Kabat).
10. An antibody or antibody fragment according to any preceding claim, which is a full-length antibody.
11. An antibody or antibody fragment according to any preceding claim, which is an antibody fragment.
12. A pharmaceutical composition comprising an antibody or antibody fragment according to any preceding claim and a pharmaceutically acceptable carrier.
13. A kit comprising an antibody or antibody fragment according to any of Claims 1 to 11, optionally further comprising a labeled secondary antibody that specifically recognizes the antibody or antibody fragment according to any preceding claim.
14. A nucleic acid or set of nucleic acids encoding a heavy and light chain of an antibody or antibody fragment according to any of Claims 1 to 11.
15. A recombinant host cell producing an antibody or antibody fragment according to any of Claims 1 to 11.
16. An antibody or antibody fragment according to any of Claims 1 to 11 for use in the treatment or prevention of a disease in a patient.
17. An antibody or antibody fragment for use according to Claim 16, in which the disease is cancer or infectious disease.
18. Use of an antibody or antibody fragment according to any of Claims 1 to 11 in the preparation of a medicament for the treatment or prevention of cancer or infectious disease.

19. An antibody or antibody fragment for use according to Claim 17 or use according to Claim 18, in which the cancer is a leukemia, bladder cancer, glioma, glioblastoma, ovarian cancer, melanoma, prostate cancer, thyroid cancer, stomach cancer, esophageal cancer, pancreatic cancer or a breast cancer.