CLAIMS

What is claimed is:

Claim 1. An antibody for use in treating human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising: ~~, wherein said antibody is~~ at least one ~~an~~ isolated monoclonal antibody ~~produced by a clone deposited with the ATCC as accession number PTA-4621~~ or ~~a~~ cancerous disease modifying antibodies (CDMAB) thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621; ~~which is characterized by an ability to competitively inhibit binding of said isolated monoclonal antibody or CDMAB thereof to its target antigen, and wherein said liver cancer expresses at least one epitope of an antigen which specifically binds to said antibody or a CDMAB thereof, , and wherein said isolated monoclonal antibody or said CDMAB thereof is in an amount effective to~~wherein binding of said epitope or epitopes results in a reduction of ~~said mammal's~~ tumor burden.

Claim 2. An antibody for treating human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:
at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;
wherein said antibody is administered in an amount that results in a reduction of tumor burden.

Claim ~~2~~3. The antibody of claim 1 or 2 wherein said isolated monoclonal antibody or CDMAB thereof is conjugated to a cytotoxic moiety.

Claim ~~3~~4. The antibody of claim 2 wherein said cytotoxic moiety is a radioactive isotope.

Claim ~~4~~5. The antibody of claim 1 or 2 wherein said isolated monoclonal antibody or CDMAB thereof activates complement.

Claim ~~5~~6. The antibody of claim 1 or 2 wherein said isolated monoclonal antibody or CDMAB thereof mediates antibody dependent cellular cytotoxicity.

Claim ~~6~~7. The antibody of claim 1 or 2 wherein said isolated monoclonal antibody is a humanized antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim ~~7~~8. The antibody of claim 1 or 2 wherein said isolated monoclonal antibody is a chimeric antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim ~~89~~. ~~An~~ The antibody of claim 1 or 2, wherein said human liver cancer is ~~for use in treating liver cancer that is~~ susceptible to antibody induced cellular cytotoxicity in a human.~~mammal, wherein said antibody is an isolated monoclonal antibody produced by a clone deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof, which is characterized by an ability to competitively inhibit binding to its target antigen, wherein said liver cancer expresses at least one epitope of an antigen which specifically binds to~~

said isolated monoclonal antibody or CDMAB thereof, and wherein said isolated monoclonal antibody or said CDMAB thereof is in an amount effective to result in a reduction of said mammal's tumor burden.

Claim 9. The antibody of claim 8 wherein said isolated monoclonal antibody or CDMAB thereof is conjugated to a cytotoxic moiety.

Claim 10. The antibody of claim 9 wherein said cytotoxic moiety is a radioactive isotope.

Claim 11. The antibody of claim 8 wherein said isolated monoclonal antibody or CDMAB thereof activates complement.

Claim 12. The antibody of claim 8 wherein said isolated monoclonal antibody or CDMAB thereof mediates antibody dependent cellular cytotoxicity.

Claim 13. The antibody of claim 8 wherein said isolated monoclonal antibody is a humanized antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim 14. The antibody of claim 8 wherein said isolated monoclonal antibody is a chimeric antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim 15. An antibody for treating human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:
at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;
wherein binding of said epitope or epitopes results in a reduction of tumor burden.

Claim 16. An antibody for treating human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:

~~at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;~~

~~wherein said antibody is administered in an amount that results in a reduction of tumor burden.~~

Claim 10. The antibody of claim 1 or 2, wherein said antibody further suppresses intrahepatic metastasis.

Claim 11. The antibody of claim 10, wherein said antibody further suppresses one of lung, intestine or urinary metastases.

Claim ~~17~~12. A binding assay to determine in a liver tissue sample a presence of cancerous liver cells, which express an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:

providing at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;

contacting said at least one isolated monoclonal antibody or CDMAB thereof with said human liver tissue sample; and

determining binding of said at least one isolated monoclonal antibody or CDMAB thereof with said liver tissue sample;

whereby the presence of said cancerous liver cells in said tissue sample is indicated.

Claim 13. Use of an antibody in the manufacture of a medicament for the treatment of human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:

at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;

wherein binding of said epitope or epitopes results in a reduction of tumor burden.

Claim 14. Use of an antibody in the manufacture of a medicament for the treatment of human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:

at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;

wherein said antibody is administered in an amount that results in a reduction of tumor burden.

Claim 15. Use of an antibody in the manufacture of a medicament for the treatment of human liver cancer which expresses an epitope or epitopes of human CD44 antigen which is specifically bound by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621, comprising:

at least one isolated monoclonal antibody or CDMAB thereof that recognizes the same epitope or epitopes as those recognized by the isolated monoclonal antibody produced by hybridoma cell line H460-16-2 having ATCC Accession No. PTA-4621;
wherein binding of said epitope or epitopes results in a reduction of tumor burden and suppression of intrahepatic metastasis.

Claim 16. The use of any one of claims 13 to 15 wherein said isolated monoclonal antibody or CDMAB thereof is conjugated to a cytotoxic moiety.

Claim 17. The use of claim 16 wherein said cytotoxic moiety is a radioactive isotope.

Claim 18. The use of any one of claims 13 to 15 wherein said isolated monoclonal antibody or CDMAB thereof activates complement.

Claim 19. The use of any one of claims 13 to 15 wherein said isolated monoclonal antibody or CDMAB thereof mediates antibody dependent cellular cytotoxicity.

Claim 20. The use of any one of claims 13 to 15 wherein said isolated monoclonal antibody is a humanized antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim 21. The use of any one of claims 13 to 15 wherein said isolated monoclonal antibody is a chimeric antibody of the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof.

Claim 22. The use of any one of claims 13 to 15, wherein said human liver cancer is susceptible to antibody induced cellular cytotoxicity in a human.

Claim 23. The use of claim 15, further comprising suppression of one of lung, intestine or urinary metastases.

Claim 18. An assay kit for detecting the presence of a human liver cancer, wherein said human liver cancer expresses at least one epitope of an antigen which specifically binds to the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof, which CDMAB is characterized by an ability to competitively inhibit binding of said isolated monoclonal antibody to its target antigen, the kit comprising the isolated monoclonal antibody produced by the hybridoma deposited with the ATCC as accession number PTA-4621 or a CDMAB thereof, and means for detecting whether the monoclonal antibody, or a CDMAB thereof, is bound to a polypeptide whose presence, at a particular cut-off level, is diagnostic of said presence of said human liver cancerous tumor.