epitope, each monoclonal antibody is directed against a single determinant on the antigen.

In one aspect, there is provided a monoclonal antibody, or a divalent functional fragment or derivative thereof, capable to inhibit the c-Met dimerization, said antibody comprising a heavy chain comprising CDR-H1, CDR-H2 and CDR-H3 with respectively the amino acid sequences SEQ ID Nos. 1, 2 and 3; and a light chain comprising CDR-L1, CDR-L2 and CDR-L3 with respectively the amino acid sequences SEQ ID Nos. 5, 6 and 7, wherein said antibody comprises a hinge region comprising the amino acid sequence selected from the group consisting of SEQ ID Nos. 24, 26 and 28 and SEQ ID Nos. 59 to 63 and 65 to 71.

In another aspect, there is provided an isolated nucleic acid, wherein it is chosen from the following nucleic acids:

a) a nucleic acid, DNA or RNA, coding for an antibody, or a divalent functional fragment or derivative thereof, as described above,

b) a nucleic acid as defined in a) and comprising a DNA sequence comprising the sequences SEQ ID No. 11, SEQ ID No. 12, SEQ ID No. 13 and the sequences SEQ ID No. 15, SEQ ID No. 16 and SEQ ID No. 17;

c) a nucleic acid as defined in a) or b) and comprising a DNA sequence comprising the sequences SEQ ID No. 14 and SEQ ID No. 18, 19 or 20;

d) the corresponding RNA nucleic acids of the nucleic acids as defined in a), b) or c); and

e) the complementary nucleic acids of the nucleic acids as defined in a), b) and c).

In still another aspect, there is provided a vector comprising a nucleic acid as described above.

In yet another aspect, there is provided an isolated host cell comprising a vector as described above.

In another aspect, there is provided a transgenic animal with the exception of human comprising at least one cell transformed by a vector as described above.

In still another aspect, there is provided a process for production of an antibody, or a divalent functional fragment or derivative thereof, as described above, comprising the following stages:

a) culture in a medium and appropriate culture conditions of a cell as described above; and

b) the recovery of said antibody, or a divalent functional fragment or derivative thereof, thus produced starting from the culture medium or said cultured cells.

In yet another aspect, there is provided a composition comprising a compound consisting of an antibody, or a divalent functional fragment or derivative thereof, as described above.

In another aspect, there is provided the use of the disclosed antibody, or a divalent functional fragment or derivative thereof, or of the disclosed composition for the preparation of a medicament intended to inhibit the growth and/or the proliferation of tumor cells.

In still another aspect, there is provided the use of the disclosed antibody, or a divalent functional fragment or derivative thereof, or of the disclosed composition, for the preparation of a medicament intended for the prevention for the treatment of cancer.

In yet another aspect, there is provided a method of in vitro diagnosis of illness induced by an overexpression or an underexpression of the c-Met receptor starting from a biological sample in which the abnormal presence of c-Met receptor is suspected, wherein said method comprises a step wherein said biological sample is contacted with an antibody as described above.

In the present description, the terms polypeptides, polypeptide sequences, amino acid sequences, peptides and proteins attached to antibody compounds or to their sequence are interchangeable.

The invention relates to a monoclonal antibody, or a divalent functional fragment or derivative thereof, capable to inhibit the c-Met dimerization and comprising a heavy chain comprising CDR-H1, CDR-H2 and CDR-H3 with respectively the amino acid sequences SEQ ID Nos. 1, 2 and 3 or a sequence having at least 80 % identity after optimum alignment with sequences SEQ ID Nos. 1, 2 and 3; and a light chain comprising CDR-L1, CDR-L2 and CDR-L3 with respectively the amino acid sequences SEQ ID Nos. 5, 6 and 7 or a sequence having at least 80% identity after optimum alignment with sequences SEQ ID Nos. 5, 6 or 7, said antibody being further characterized in that it also comprises a hinge region comprising the amino acid sequence SEQ ID No. 56.

More particularly, the invention relates to a monoclonal antibody, or a divalent functional fragment or derivative thereof, as above described characterized in that it also comprises a hinge region comprising the amino acid sequence SEQ ID No. 57.

In other words, the invention relates to a monoclonal antibody, or a divalent functional fragment or derivative thereof, capable to inhibit the c-Met dimerization and comprising a heavy chain comprising CDR-H1, CDR-H2 and CDR-H3 with respectively the amino acid sequences SEQ ID Nos. 1, 2 and 3 or a sequence having at least 80% identity after optimum alignment with sequences SEQ ID Nos. 1, 2 and 3; and a light chain comprising CDR-L1, CDR-L2 and CDR-L3 with respectively the amino acid sequences SEQ ID Nos. 5, 6 and 7 or a sequence having at least 80% identity after optimum alignment with sequences SEQ ID Nos. 5, 6 or 7, said antibody being further characterized in that it also comprises a hinge region comprising the amino acid sequence SEQ ID No. 57.

More particularly, the invention relates to a monoclonal antibody, or a divalent functional fragment or derivative thereof, as above described characterized in that it also comprises a hinge region comprising the amino acid sequence SEQ ID No. 21.