CLAIMS

[Claim1]

A monoclonal antibody or its antibody fragment that specifically binds to human Nav1.7, comprising:

a heavy chain variable region including

a CDR1 consisting of the amino acid sequence of SEQ ID NO: 4,

a CDR2 consisting of the amino acid sequence of SEQ ID NO: 59 and

a CDR3 consisting of the amino acid sequence of SEQ ID NO: 64 and

a light chain variable region including

a CDR1 consisting of the amino acid sequence of SEQ ID NO: 72,

a CDR2 consisting of the amino acid sequence of SEQ ID NO: 9 and

a CDR3 consisting of the amino acid sequence of SEQ ID NO: 10.

[Claim 2]

The monoclonal antibody or antibody fragment according to claim 1 wherein the monoclonal antibody is a humanized monoclonal antibody.

[Claim 3]

The monoclonal antibody or antibody fragment according to claim 2, comprising

a heavy chain variable region consisting of

the amino acid sequence of any one of SEQ ID NO: 33, and

a light chain variable region consisting of

the amino acid sequence of any one of SEQ ID NOs: 55, 79 to 89, 93 to 102.

[Claim 4]

The monoclonal antibody or its antibody fragment according to claim 3, further comprising

a heavy chain constant region consisting of the amino acid sequence of SEQ ID NO: 11 and

a light chain constant region consisting of the amino acid sequence of SEQ ID NO: 12.

[Claim 5]

A polynucleotide encoding the heavy chain variable region of the monoclonal antibody according to claim 3 and the light chain variable region of the monoclonal antibody according to claim 3.

[Claim 6]

The polynucleotide according to claim 5, further encoding the heavy chain

constant region of the monoclonal antibody according to claim 4 and the light chain constant region of the monoclonal antibody according to claim 4.

[Claim 7]

An expression vector including the polynucleotide according to claim 5 or 6.

[Claim 8]

A pharmaceutical composition comprising the monoclonal antibody or its antibody fragment according to any one of claims 1 to 4.

[Claim 9]

The pharmaceutical composition according to claim 8, which is a therapeutic and/or preventive agent for pain and/or pruritus.