WHAT IS CLAIMED IS:

【Claim 1】

A method of detecting myelin oligodendrocyte glycoprotein (MOG)-IgG from a sample, comprising the steps of:

(a) cloning a nucleic acid encoding MOG into a fluorescent protein expression vector;

(b) transfecting a cell with the MOG-cloned expression vector;

(c) culturing the transfected cell in a medium containing a selection drug to select a stable transfected cell line expressing MOG;

(d) incubating the selected cell line with a sample expected to contain MOG-IgG;

(e) adding a fluorescence-conjugated secondary antibody to the incubated sample to form a MOG-IgG and secondary antibody conjugate; and

(f) detecting or analyzing fluorescence from the MOG-IgG and secondary antibody conjugate,

wherein the secondary antibody is an anti-human IgG (H+L), and wherein the secondary antibody does not show a cross reaction with IgM.

【Claim 2】

The method of claim 1, wherein the nucleic acid encoding MOG consists of the base sequence as set forth in SEQ ID NO: 1.

【Claim 3】

The method of claim 1, wherein the fluorescent protein is EGFP, GFP, YFP, DsRed2, Tdtomato, or mCherry.

【Claim 4】

The method of claim 1, wherein the cell is a human embryonic kidney (HEK) 293 cell, a HeLa cell, a Chinese hamster ovary (CHO) cell, or an NIH3T3 cell.

【Claim 5】

The method of claim 1, wherein the selection drug is hygromycin, puromycin, blasticidin, or G418.

【Claim 6】

The method of claim 1, wherein the sample is spinal fluid, blood or serum isolated from a patient with MOG-IgG-related central nervous system (CNS) inflammatory disease.

【Claim 7】

The method of claim 1, wherein step (f) is performing immunofluorescence assay or flow cytometry assay.

【Claim 8】

A method of providing information for prediction or diagnosis of MOG-IgG-related central nervous system inflammatory disease, comprising the steps of:

(a) cloning a nucleic acid encoding MOG into a fluorescent protein expression vector;

(b) transfecting a cell with the MOG-cloned expression vector;

(c) culturing the transfected cell in a medium containing a selection drug to select a stable transfected cell line expressing MOG;

(d) incubating the selected cell line with a sample expected to contain MOG-IgG;

(e) adding a fluorescence-conjugated secondary antibody to the incubated sample to form a MOG-IgG and secondary antibody conjugate; and

(f) detecting or analyzing fluorescence from the MOG-IgG and secondary antibody conjugate,

wherein the secondary antibody is an anti-human IgG (H+L), and wherein the secondary antibody does not show a cross reaction with IgM.

【Claim 9】

The method of claim 8, wherein the nucleic acid encoding MOG consists of the base sequence as set forth in SEQ ID NO: 1.

【Claim 10】

The method of claim 8, wherein the MOG-IgG-related central nervous system inflammatory disease is AQP4-IgG-negative neuromyelitis optica spectrum disorder (NMOSD), acute disseminated encephalomyelitis (ADEM), myelitis, encephalitis, or optic neuritis (ON).