

Claims

Claim 1

A polypeptide having a fluorescence property,
the polypeptide being defined in any one of (1) to (4)

5 below:

(1) A polypeptide having an amino acid sequence
represented by SEQ ID NO. 1 or NO. 2,

(2) A polypeptide having an amino acid sequence
represented by SEQ ID NO. 1 or NO. 2 in which amino acid
10 sequence 1 to 3423 amino acids have been replaced, deleted,
inserted, and/or added,

(3) A polypeptide having a sequence identity of 8590% or
more with respect to the amino acid sequence represented by
SEQ ID NO. 1 or NO. 2, and

15 (4) A polypeptide ~~encoded by a polynucleotide that
hybridizes under a stringent condition with a polynucleotide
having a sequence complementary to a polynucleotide that
encodes the polypeptide defined in (1) above that has an amino
acid sequence in which at least one of amino acids 85, 151, and 176~~
20 of the amino acid sequence represented by SEQ ID NO. 1 or NO. 2
has been replaced and which has a sequence identity of 85% or more
with respect to the amino acid sequence represented by SEQ ID NO.
1 or NO. 2.

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Claim 2

The polypeptide according to claim 1,

wherein

the polypeptide has a fluorescence quantum yield Φ of

5 0.4 or more.

Claim 3

A polynucleotide defined in any one of (1) to (4) below:

10 (1) A polynucleotide encoding a polypeptide having an amino acid sequence represented by SEQ ID NO. 1 or NO. 2,

(2) A polynucleotide encoding a polypeptide that has an amino acid sequence represented by SEQ ID NO. 1 or NO. 2 in which amino acid sequence 1 to ~~34~~23 amino acids have been replaced, deleted, inserted, and/or added and that has a
15 fluorescence property,

(3) A polynucleotide encoding a polypeptide that has a sequence identity of ~~85~~90% or more with respect to the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 and that has a fluorescence property, and

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(4) A polynucleotide encoding a polypeptide that ~~hybridizes under a stringent condition with a polynucleotide having a sequence complementary to the polynucleotide defined in (1) above and that has a fluorescence property~~has an amino acid sequence in which at least one of amino acids 85, 151, and 176 of the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 has been replaced and which has a sequence identity of 85% or more with respect to the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 and that has a fluorescence property.

Claim 4

An expression cassette comprising:

(a) an expression regulatory region functional in an expression host; and

(b) a polynucleotide according to claim 3.

Claim 5

Claims

Claim 1

A polypeptide having a fluorescence property,
the polypeptide being defined in any one of (1) to (4)
5 below:

(1) A polypeptide having an amino acid sequence
represented by SEQ ID NO. 1 or NO. 2,

(2) A polypeptide having an amino acid sequence
represented by SEQ ID NO. 1 or NO. 2 in which amino acid
10 sequence 1 to 23 amino acids have been replaced, deleted,
inserted, and/or added,

(3) A polypeptide having a sequence identity of 90% or
more with respect to the amino acid sequence represented by
SEQ ID NO. 1 or NO. 2, and

15 (4) A polypeptide that has an amino acid sequence in which
at least one of amino acids 85, 151, and 176 of the amino acid
sequence represented by SEQ ID NO. 1 or NO. 2 has been replaced
and which has a sequence identity of 85% or more with respect to the
amino acid sequence represented by SEQ ID NO. 1 or NO. 2.

Claim 2

The polypeptide according to claim 1,

wherein

the polypeptide has a fluorescence quantum yield Φ of

5 0.4 or more.

Claim 3

A polynucleotide defined in any one of (1) to (4) below:

10 (1) A polynucleotide encoding a polypeptide having an amino acid sequence represented by SEQ ID NO. 1 or NO. 2,

(2) A polynucleotide encoding a polypeptide that has an amino acid sequence represented by SEQ ID NO. 1 or NO. 2 in which amino acid sequence 1 to 23 amino acids have been replaced, deleted, inserted, and/or added and that has a
15 fluorescence property,

(3) A polynucleotide encoding a polypeptide that has a sequence identity of 90% or more with respect to the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 and that has a fluorescence property, and

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(4) A polynucleotide encoding a polypeptide that has an amino acid sequence in which at least one of amino acids 85, 151, and 176 of the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 has been replaced and which has a sequence identity of 85% or more with respect to the amino acid sequence represented by SEQ ID NO. 1 or NO. 2 and that has a fluorescence property.

Claim 4

An expression cassette comprising:

(a) an expression regulatory region functional in an expression host; and

(b) a polynucleotide according to claim 3.

Claim 5