[CLAIMS]

[Claim 1]

A glutamine-hydrolyzing GMP synthase variant in which the amino acid corresponding to position 29 in SEQ ID NO: 3 is substituted with another amino acid,

wherein the variant has 90% or more of sequence identity with the amino acid sequence of SEQ ID NO: 3.

[Claim 2] The glutamine-hydrolyzing GMP synthase variant of claim 1, wherein the other amino acid is selected from glycine, alanine, valine, leucine, isoleucine, methionine, phenylalanine, tryptophan, proline, serine, threonine, cysteine, tyrosine, asparagine, glutamine, aspartic acid, glutamic acid, lysine, and histidine.

[Claim 3] A polynucleotide encoding the variant of claim 1.

[Claim 4]

A microorganism of the genus *Corynebacterium* comprising a glutamine-hydrolyzing GMP synthase variant in which the amino acid corresponding to position 29 in SEQ ID NO: 3 is substituted with another amino acid, or a polynucleotide encoding the variant,

wherein the variant has 90% or more of sequence identity with the amino acid sequence of SEQ ID NO: 3.

[Claim 5] The microorganism of claim 4, wherein the microorganism is *Corynebacterium stationis*.

[Claim 6]

A method for producing XMP or GMP, the method comprising culturing the microorganism of claim 4 or 5.

[Claim 7]

The method of claim 6, further comprising recovering XMP or GMP from a culture medium or the microorganism.

[Claim 8]

A composition for producing XMP or GMP, the composition comprising at least one of: a glutamine-hydrolyzing GMP synthase variant in which the amino acid corresponding to position 29 in SEQ ID NO: 3 is substituted with another amino acid; a microorganism of the genus *Corynebacterium* comprising the variant; and a medium in which the microorganism of the genus *Corynebacterium* has been cultured,

wherein the variant has 90% or more of sequence identity with the amino acid sequence of SEQ ID NO: 3.

[Claim 9]

A method for increasing XMP or GMP-producing ability of a microorganism, the method comprising modifying the microorganism to express the variant of claim 1.