[12] The zirconia compositional substance described in [11] above, wherein, when 3.0 ± 0.1 g of the zirconia compositional substance is charged in a mold having a diameter of 25 mm, uniaxially press-formed at a pressure of 49 MPa and then subjected to a CIP process at a pressure of 196 MPa, a measured density is 3.2 g/cm^3 or more.

[13] The zirconia compositional substance described in any one of [1] to [10] above, wherein the zirconia compositional substance is a green body.

[14] The zirconia compositional substance described in [13] above, wherein the zirconia compositional substance has Vickers hardness of 11.0 or more.

[15] A method for producing a calcined body, the method comprising a step of calcining the zirconia compositional substance described in any one of [1] to [14] above.

[16] A method for producing a sintered body, the method comprising a step of sintering a calcined body obtained by the production method described in [15] above.

SUMMARY

[0010a]

In an aspect of the present disclosure, there is provided a zirconia compositional substance comprising:

at least one first transition metal element selected from the group consisting of manganese (Mn), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), molybdenum (Mo), technetium (Tc), ruthenium (Ru), rhodium (Rh), palladium (Pd) and silver (Ag);

a coloring element that is either or both of a lanthanoid rare earth element and a second transition metal element different from the first transition metal element; and

stabilizing element-containing zirconia,

wherein

a content of the first transition metal element is 100 mass ppm or more,

a content of the second transition metal element is less than 100 mass ppm, and

the zirconia compositional substance satisfies either or both of the following conditions:

when a characteristic X-ray of a zirconium element therein and a characteristic X-ray of the first transition metal element are measured, a percentage of measurement

points at which a ratio of an intensity of the characteristic X-ray of the first transition metal element to an intensity of the characteristic X-ray of the zirconium element is 0.05 or more is 3% or less of all measurement points; and

when the characteristic X-ray of the zirconium element therein and the characteristic X-ray of the first transition metal element are measured, a distribution width of the ratio of the intensity of the characteristic X-ray of the first transition metal element to the intensity of the characteristic X-ray of the zirconium element is 0.3 or less.

[0010b]

In another aspect of the present disclosure, there is provided a method for producing a calcined body, the method comprising a step of calcining the zirconia compositional substance as disclosed herein.

[0010c]

In a further aspect of the present disclosure, there is provided a method for producing a sintered body, the method comprising a step of calcining the zirconia compositional substance as disclosed herein.

ADVANTAGEOUS EFFECTS OF INVENTION

[0011]

The present disclosure can provide at least one selected from a calcined body that is easier to work than existing calcined bodies and that has a smaller difference in hardness between the production lots, a method for producing the same, a sintered body obtained therefrom and a zirconia compositional substance used as a raw material of such a calcined body.

DESCRIPTION OF EMBODIMENTS

[0012]

A zirconia compositional substance according to the present disclosure will now

be described through some exemplary embodiments. The terms used in the embodiments are as follows.

[0013]

A "compositional substance" is a substance having a particular composition, and is, for example, at least one selected from the group consisting of a powder, a green body, a calcined body and a sintered body. A "zirconia compositional substance" is a