CLAIMS

[Claim 1]

A method for producing a catalyst for olefin polymerization, comprising

performing a pre-contact treatment of bringing

a solid catalytic component (A) comprising a magnesium atom, a titanium atom, a halogen atom and an electron-donating compound having no phthalic acid ester structure, an organoaluminum compound (B) represented by the following general formula (I):

$R^1_pAlQ_{3-p}$ (I)

wherein R^1 is an alkyl group having 1 to 6 carbon atoms, Q is a hydrogen atom or a halogen atom, and p is a real number of $0 < p \leq 3$,

and an external electron-donating compound (C)

into contact with each other at a temperature of 10°C or lower for a time of 15 minutes or shorter in the absence of the olefin.

[Claim 2]

The method for producing a catalyst for olefin polymerization according to claim 1, wherein the electron-donating compound having no phthalic acid ester structure is a compound having one or more groups selected from an ester group, a carbonate group and an ether group.

[Claim 3]

The method for producing a catalyst for olefin polymerization according to claim 1 or 2, wherein the electron-donating compound having no phthalic acid ester structure is at least one compound selected from a succinic acid diester, a malonic acid diester, a maleic acid diester, a cyclohexenecarboxylic acid diester, an ether carboxylic acid ester, a dicarbonate, and a carbonate-ether.

[Claim 4]

The method for producing a catalyst for olefin polymerization according to any of claims 1 to 3, wherein the treatment temperature of the pre-contact treatment is -15°C to 10°C.

[Claim 5]

The method for producing a catalyst for olefin polymerization according to any of claims 1 to 4, wherein the treatment time of the pre-contact treatment is 5 seconds to 15 minutes.