

Abstract

The present invention provides a catalyst component for olefin polymerization and a preparation method thereof, and a catalyst for olefin polymerization and an application thereof. The catalyst component for olefin polymerization comprises reaction products of the following components: (1) a solid component; (2) at least one titanium compound; and (3) at least two internal electron donors, wherein the solid component comprises a magnesium compound represented by formula (1) and an epoxide represented by formula (2), wherein R_1 is a C_1 - C_{12} linear or branched alkyl; R_2 and R_3 are identical or different, and are independently hydrogen or unsubstituted or halogen-substituted C_1 - C_5 linear or branched alkyl; X is halogen; m is in a range of from 0.1 to 1.9, n is in a range of from 0.1 to 1.9, and $m + n = 2$.

