

## ABSTRACT

PROCESS FOR PRODUCING SOLID CATALYST COMPONENT AND CATALYST  
FOR  $\alpha$ -OLEFIN POLYMERIZATION, AND PROCESS FOR PRODUCING  $\alpha$ -  
-OLEFIN POLYMER

There are disclosed a process for producing a solid catalyst component and a catalyst for  $\alpha$ -olefin polymerization, and a process for producing an  $\alpha$ -olefin polymer, wherein the  
5 process for producing a solid catalyst component comprises the steps of:

(1) reducing a specific titanium compound with an organomagnesium compound in the presence of an organosilicon compound having an Si-O bond (and an ester compound), thereby  
10 obtaining a solid product, and

(2) contacting the solid product with at least one member selected from the group consisting of an electron donor compound (E1) and an organic acid halide, and a compound having a Ti-halogen bond, thereby obtaining the solid catalyst  
15 component.