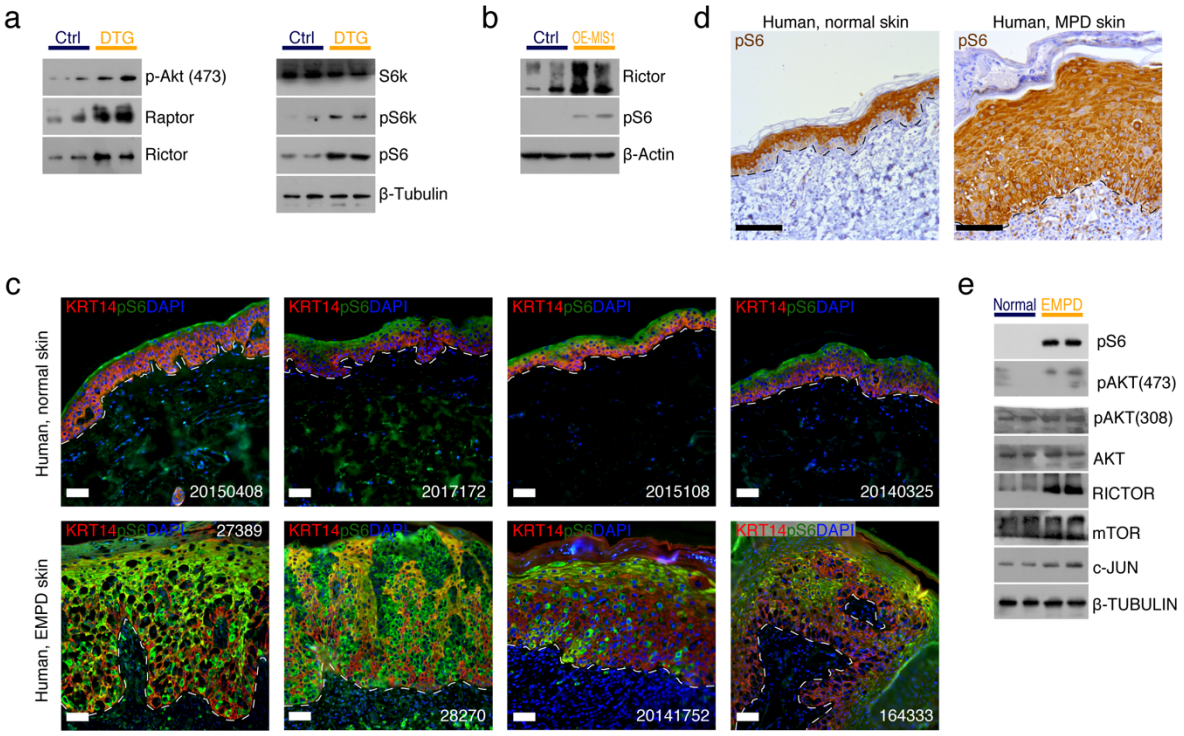

Fig.S22 mTOR signaling pathway is ectopically activated in PD tissues. **a** Western blotting analysis of p-Akt (473), Raptor, Rictor, S6k, pS6k and pS6 in control and DTG mouse dorsal skin 48 hours after continuous Doxycycline treatment. β-Tubulin was used as loading control. Number in parenthesis represents phosphorylation site. **b** Western blotting analysis of pS6 in cultured primary keratinocytes from control and *Krt14-rtTA;TRE-Msi1* DTG mice. Primary keratinocytes were treated by addition of 2mg/L Doxycycline into culture medium for 48 hours. β-Tubulin was used as loading control. **c** Immunofluorescence of Krt14 and pS6 in normal (n=8) and EMPD (n=12) human skin. Identification numbers indicate tissue donor. **d** Immunohistochemical staining of pS6 in normal (n=3) and MPD (n=5) human skin. **e** Western blotting analysis of pS6, p-AKT(473), p-AKT(308), AKT, RICTOR and mTOR in normal and EMPD human skin. Number in parenthesis represents phosphorylation site. β-Tubulin was used as loading control. Representative images are shown. Epidermis and dermis are demarcated with broken line. Scale bar: **c, d** – 50 μm.