



**Fig. S1.** (a) Immunofluorescence staining of a normal control and the proband's plantar skin (magnification,  $\times 200$ ). (b) Immunohistochemical staining of a normal esophagus, a sporadic squamous esophageal cancer and the proband's esophageal cancer tissue. Scale bars represent  $100\mu\text{m}$ . (magnification,  $\times 200$ ).