**Figure Legends**

**Figure 1**. Plasmid pRGEB32 construction containing T-DNA carried CRISPR/Cas9 (Xie et al. 2015).

**Figure 2.** Development of *P. amabilis* protocorms on Hygromycin containing selection medium for transformants

**Figure 3.** Detection of transformant orchid plants based on PCR-amplicon of transgene. PCR were performed using specific primers of HPT, Cas9, and PDS3 genes. The fragment of trnL-F was used as internal control of PCR reaction. (M: 1kb Gene aid DNA Marker, 1: Wild type *P.amabilis*, 2–4: Transformant candidates PDS3T1, and 5–7: Transformant candidates PDS3T2)

**Figure 4.** The sequence alignment of the edited transformant *PaPDS3T2* against wild-type sequence produced in protocorm of *P.amabilis*. Highlighted nucleotide by red there indication has occurred mutation

**Figure 5**. Phenotypic changes on the development of protocorm into shoot of P. amabilis. (A) Wild-type and the transformant (B) PDS3T1; (C) PDS3T2.