

**Additional file 9.** Characteristics of the binary vector used for pea transformation.

<b>Genetic element</b>	<b>Size (bp)</b>	<b>Description</b>
pPZP200	6741	High copy binary vector used for cloning of DNA sequences [62]
USP+	1191	Elongated version of the Unknown Seed Protein (USP) promoter from <i>Vicia faba</i> [65]
pPZP-USP+scFv	variable	Binary vector for plant transformation (target gene encodes scFv)
UTR-LeB4	17	5'-untranslated region from legumin gene of <i>Vicia faba</i> [64]
LeB4	75	Signal sequence for legumin from <i>Vicia faba</i> which targets to the endoplasmic reticulum (ER) [64]
HIS	18	Synthetic hexa histidine tag for purification purposes
KDEL	12	Synthetic ER-retention signal
35S terminator	225	Terminator (poly A signal) from CaMV 35S transcript [66]