On the road to pea-based pharmaceuticals

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Pharmaceuticals should be produced in plants that have a high protein content to increase the production effectiveness, have a good storage capacity to reduce production costs and do not contain any toxic substances, neither endogenous compounds nor toxins derived from fertilizers or pesticides. In addition they should have excellent biosafety aspects and be assessable to gene transfer. *Pisum sativum* fulfills several of these aspects like high protein contend in the seeds and superior storage capacities. Nonetheless, for commercialisation of pharmaceuticals produced in plants it is necessary to create a master seed bank. In this work we focus on the question if it is possible to provide a master seed bank with CTB::VP60-expressing pea plants. In order to create a master seed pool to produce pea-derived vaccines against RHD (rabbit heamorrhagic disease) we used a well characterized pea line carrying one integration locus of *ctbvp60*. CTB::VP60-expressing pea plants were cultivated and analyzed up to the 6^{th} generation. In the 4^{th} generation we identified one sibling line with the lowest relative coefficient of variation (CV) of CTB::VP60 with 2.8 % in the leaves of pea plants. The seeds of the plants showed 5 % variation in the CTB::VP60 content. This material has been used for the creation of the pea seed bank.