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# EXPRESSION AND STRUCTURAL ANALYSIS OF THE RUBBER PRODUCING MACHINERY IN TARAXACUM KOK-SAGHYZ RODIN

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*natural rubber, Taraxacum kok-saghyz, cis-prenyl transferase, isoprenoids, raw materials*

*Taraxacum kok-saghyz* Rodin, (Tks) is a high quality natural rubber producing plant that is being developed as an alternative crop to *Hevea brasiliensis*. We sequenced and assembled a reference root transcriptome of Tks, identifying (by BLAST analysis) the main components of the rubber producing machinery. We found five cis-prenyl transferases (CPT), seven small rubber particle proteins (SRPP), two CPT-like and the homolog of *Taraxacum brevicorniculatum* Rubber elongation factor (REF). We also identified several genes potentially involved in the mevalonate pathway (MVA), which produces Isopentenyl pyrophosphate, the basic building block of natural rubber. Among them, we focused our analysis on the key MVA enzyme Hydroxymethylglutaryl-CoA reductase. To better understand the role of all these genes involved, directly or indirectly, in the rubber production, we performed qRT-PCR experiments in Tks plants with contrasting rubber productivities. Finally, we compared sequences and functional domains against proteins from other rubber producing plants.