The trans-zeatin secretion (tzs) locus of Agrobacterium rhizogenes strain A4 was cloned from the hairy-root-inducing plasmid, pRlA4. The gene is located in the virulence region on the HindIII fragment 19(1). The cloned gene in pUC19 is expressed in E. coli resulting in low-level secretion of trans-zeatin. Sequence analysis shows an open reading frame of 729 nucleotides, with greater than 80% DNA sequence identity to the A. tumefaciens T37 tza gene (2,3) and 86% identity at the amino acid level.

TGGAGATCGTGGTGGCCACAGATGGGTATTTCCATATTAACATCTATGAGGCCACGATGTTGCTATCTCATCT
MetLeuTyrLeuIle

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REFERENCES