

CONTRIBUTION OF VAULTS TO A BENZNIDAZOLE (BZ) SUSCEPTIBLE OR
RESISTANT-PHENOTYPE IN *TRYPANOSOMA CRUZI*

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Vaults are evolutionarily conserved ribonucleoprotein particles with a hollow barrel-like structure composed of multiple copies of three proteins and a small untranslated RNA. The main component of vaults represents the 110 kDa major vault protein (MVP). The unique structure and its subcellular localization indicate a function in intracellular transport. It has recently been postulated that vaults contribute to drug resistance by preventing drugs from interacting with their intracellular targets by either transporting the targets or the drugs. Here, we investigated the MVP levels in 6 *T. cruzi* strains that were either susceptible or naturally resistant to BZ, or had an *in vivo*-selected resistance to BZ. Northern blot analyses showed that MVP transcription levels can vary up to 5 fold when comparing LER, 17WTS, Colombian and CL strains. However, no differences were observed in MVP transcription levels between BZS and BZR strains. Five *T. cruzi* populations contained two copies of the TcMVP gene, while BZR contained only one. The chromosomal localization of the TcMVP gene also showed variations among the investigated strains. Further studies will aim to determine if Vaults mRNA levels alone can be used as a prediction of drug resistance in *T. cruzi*.

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