

Antibiotic Resistance Assays

Antibiotic resistance was used as a selection marker for transformation, and innate resistances in the strains could have confounded selection. In Table 1, solid plate antibiotic assays indicated that *R. tropici* CIAT 899 is resistant to Spectomycin and Carbenicillin, whereas *S. meliloti* 371 is resistant to Spectomycin. Liquid antibiotic resistance assays suggested that *R. tropici* CIAT 899 is resistant to Spectomycin, and *S. meliloti* 356, 370, and 371 are resistant to Streptomycin. For the rhizobium strains, the type of culture (liquid or solid) affects resistance to antibiotics commonly used in laboratories. Kanamycin was effective at suppressing growth of Rhizobium cells in both solid and liquid media, indicating that Kanamycin resistance can be used as a selection marker and that pKT230 is a suitable plasmid backbone for the expression of the recombinase in Rhizobia.

Table 1: Innate antibiotic resistances from solid plate and liquid culture antibiotic assay

Antibiotic	<i>R. tropici</i> CIAT 899		<i>S. meliloti</i> 356		<i>S. meliloti</i> 370		<i>S. meliloti</i> 371	
Culture	Solid	Liquid	Solid	Liquid	Solid	Liquid	Solid	Liquid
Streptomycin	NO	NO	NO	YES	NO	YES	NO	YES
Carbenicillin	YES	NO	NO	NO	NO	NO	NO	YES
Kanamycin	NO	NO	NO	NO	NO	NO	NO	NO
Rifampicin	NO	NO	NO	NO	NO	NO	NO	NO
Spectomycin	YES	YES	NO	NO	NO	NO	YES	YES