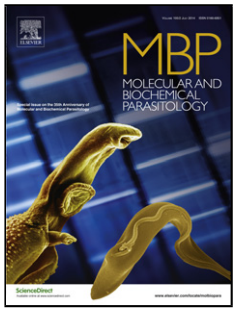

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Conversion of procyclic-form *Trypanosoma brucei* to the bloodstream form by transient expression of RBP10

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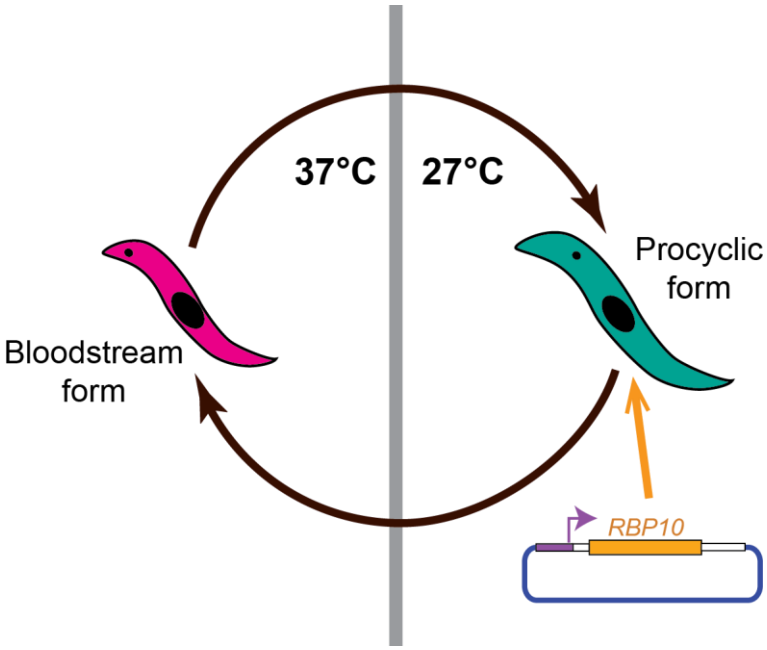
Graphical abstract

We describe a method to convert procyclic-form *Trypanosoma brucei* to bloodstream forms by transient transfection of a plasmid expressing the RNA-binding protein RBP10.



We describe a method to convert procyclic-form *Trypanosoma brucei* to bloodstream forms by transient transfection of a plasmid expressing the RNA-binding protein RBP10.
Bloodstream forms can be obtained without integrating inducible constructs into the genome; so no selectable markers are used.
It takes about 10 days to obtain a growing bloodstream-form culture.
The procedure works with procyclic forms that transformed from bloodstream forms up to 3 months previously, but so far not with cultures that have been established for many years.

Abstract

Bloodstream-form *Trypanosoma brucei* can lose the ability to differentiate to the procyclic form during prolonged *in vitro* culture. This can pose a problem during complicated genetic manipulation experiments, especially when the differentiation phenotype is under investigation. Ideally, to preserve differentiation competence, parasites should be cycled after every genetic manipulation step. Conversion of bloodstream-form *Trypanosoma brucei* to the procyclic form *in vitro* is routine, but conversion of procyclic forms to bloodstream forms has