

**Supplementary Table 1** - Concentration of organic acids in different times of the differentiation of the *Trypanosoma cruzi* in TAU3AAG medium, obtained through the Aminex HPX 87H column.

<b>Organic acids</b>	<b>24 h</b>	<b>48 h</b>	<b>72 h</b>
<b>Glycerate-2-P</b>	<b>1890.02 ± 132.1</b>	<b>1547.12 ± 82.5</b>	<b>811.62 ± 38.76</b>
<b>Citrate</b>	<b>24.12 ± 1.51</b>	<b>31.08 ± 1.77</b>	<b>8.89 ± 4.34</b>
<b>Piruvate</b>	<b>357.04 ± 17.7</b>	<b>206.23 ± 14.5</b>	<b>10.12 ± 8.43</b>
<b>Malate</b>	<b>10.01 ± 0.54</b>	<b>27.02 ± 2.65</b>	<b>20.43 ± 7.12</b>
<b>Succinate</b>	<b>27.30 ± 1.91</b>	<b>226.12 ± 13.61</b>	<b>199.66 ± 8.34</b>
<b>Acetate</b>	<b>381.43 ± 29.35</b>	<b>342.03 ± 21.44</b>	<b>259.24 ± 23.45</b>

The values corresponds the media ± SD of the concentration in nmoles of organic acid of three experiments realized with a population of  $\sim 3 \times 10^8$  parasites.

**Supplementary Table 2** - Concentration of the acids organic during the growth of the *Trypanosoma cruzi* in BHI medium, obtained through the Aminex HPX 87H column.

<b>Organic Acid</b>	<b>24 h</b>	<b>72 h</b>	<b>12h</b>	<b>168 h</b>
<b>Glycerate-2-P</b>	<b>1695.5 ± 92.2</b>	<b>1569.3 ± 6.31</b>	<b>1809.2 ± 93.62</b>	<b>1484.2 ± 121.11</b>
<b>Citrate</b>	<b>129.3 ± 9.11</b>	<b>169.2 ± 9.46</b>	<b>326.4 ± 11.31</b>	<b>281.3 ± 28.01</b>
<b>Piruvate</b>	<b>2.4 ± 0.11</b>	<b>1.7 ± 0.03</b>	<b>2.7 ± 0.80</b>	<b>4.7 ± 1.10</b>
<b>Malate</b>	<b>2.6 ± 0.12</b>	<b>2.7 ± 0.11</b>	<b>0.7 ± 0.05</b>	<b>0.6 ± 0.03</b>
<b>Succinate</b>	<b>2.2 ± 0.07</b>	<b>3.5 ± 0.15</b>	<b>4.2 ± 0.41</b>	<b>2.9 ± 0.08</b>
<b>Acetate</b>	<b>59.1 ± 3.13</b>	<b>102.2 ± 3.78</b>	<b>185.5 ± 12.21</b>	<b>147.2 ± 7.60</b>

The values correspond the media ± SD of the concentration in nmoles of organic acid of three experiments realized with a population of  $\sim 3 \times 10^8$  parasites.

**Supplementary Table 3-** Correlation between the percentage of epimastigote and tripomastigote forms and the specific enzymatic activity of aldolase (Ald), hexokinase (Hk) and piruvate kinase (Pk) enzymes during the differentiation of the *T. cruzi* in TAU3AAG medium.

<b>Time (h)</b>	<b>% trypo</b>	<b>% epi</b>	<b>Specific Activity</b>		
			<b>Pk</b>	<b>Hk</b>	<b>Ald</b>
<b>0</b>	<b>&lt;1</b>	<b>&gt;100</b>	<b>0.11 ± 0.02</b>	<b>0.30 ± 0.00</b>	<b>4.40 ± 0.70</b>
<b>24</b>	<b>25</b>	<b>75</b>	<b>0.08 ± 0.01</b>	<b>0.23 ± 0.04</b>	<b>2.00 ± 0.20</b>
<b>48</b>	<b>50</b>	<b>50</b>	<b>0.01 ± 0.00</b>	<b>0.03 ± 0.01</b>	<b>0.34 ± 0.00</b>
<b>72</b>	<b>70</b>	<b>30</b>	<b>0.06 ± 0.00</b>	<b>0.11 ± 0.02</b>	<b>0.74 ± 0.02</b>

The values of specific activity correspond the average with the standard deviation of three experiments accomplished in copy. The unit for Pk and Hk was  $\mu\text{moles subst/min/mg protein}$  and for the aldolase was  $\text{nmoles subst/min/mg protein}$ .  $\sim 2 \times 10^8$  parasites were used in each assay.

**Supplementary Table 4-** Specific enzymatic activity of the aldolase (Ald), hexokinase (Hk) and piruvate kinase (Pk) extracted from epimastigotes maintained in BHI medium.

Time (h)	Specific Activity		
	Pk	Hk	Ald
24	0.02 $\pm$ 0.09	0.09 $\pm$ 0.03	3.97 $\pm$ 0.03
72	0.08 $\pm$ 0.03	0.23 $\pm$ 0.01	4.04 $\pm$ 0.25
120	0.10 $\pm$ 0.02	0.29 $\pm$ 0.00	4.05 $\pm$ 0.02

The values of specific activity correspond the average with the standard deviation of two experiments accomplished in copy. The unit for Pk and Hk was  $\mu$ moles subst/min/mg protein and for the aldolase was nmoles subst/min/mg protein.  $\sim 2 \times 10^8$  parasites were used in each experiment of enzymatic determination.



