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**ARF6 GTPase, Annexin A2 and Galectin-3 are associated with cell invasion by  
*Trypanosoma cruzi* extracellular amastigotes**

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The signaling pathways involved in *Trypanosoma cruzi* extracellular amastigote (EA) invasion are gradually being disclosed. ADP-ribosylation factor-6 (ARF6) belongs to the ARF family of small GTP-binding proteins and regulates membrane trafficking and actin cytoskeleton organization at the plasma membrane. Annexin A2 is one member of the annexin family that include calcium- and phospholipid-binding proteins also implicated in regulation of membrane organization and membrane trafficking. Galectin-3 belongs to a family of beta-galactoside-binding proteins, the galectins, and is involved with many functions including protein trafficking and endocytic pathways. Because the ability of extracellular amastigotes (EA) to invade host cells is associated to cytoskeleton rearrangement and could be connected to activation of specific signaling routes we propose to verify if ARF-6, annexin A2 and galectin-3 would play role in the *T. cruzi* extracellular amastigotes from G and CL strains cell invasion and evaluate if these molecules would be recruited to the parasitophorous vacuole of the parasite. By using immunofluorescence and cell transfection techniques we identified these molecules accumulated in the parasitophorous vacuole vicinity. We also demonstrated that the knocking down and knocking out of ARF-6 and annexin A2 respectively have an inhibition effect on parasite invasion. These results revealed that the EA invasion requires mobilization of these specific cytoskeleton components and that the intracellular pathway activated could be intrinsically associated with membrane trafficking conducted by ARF-6, annexin A2 and galectin-3. Financial support: FAPEMIG/UFU/CNPq.

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