Additional files

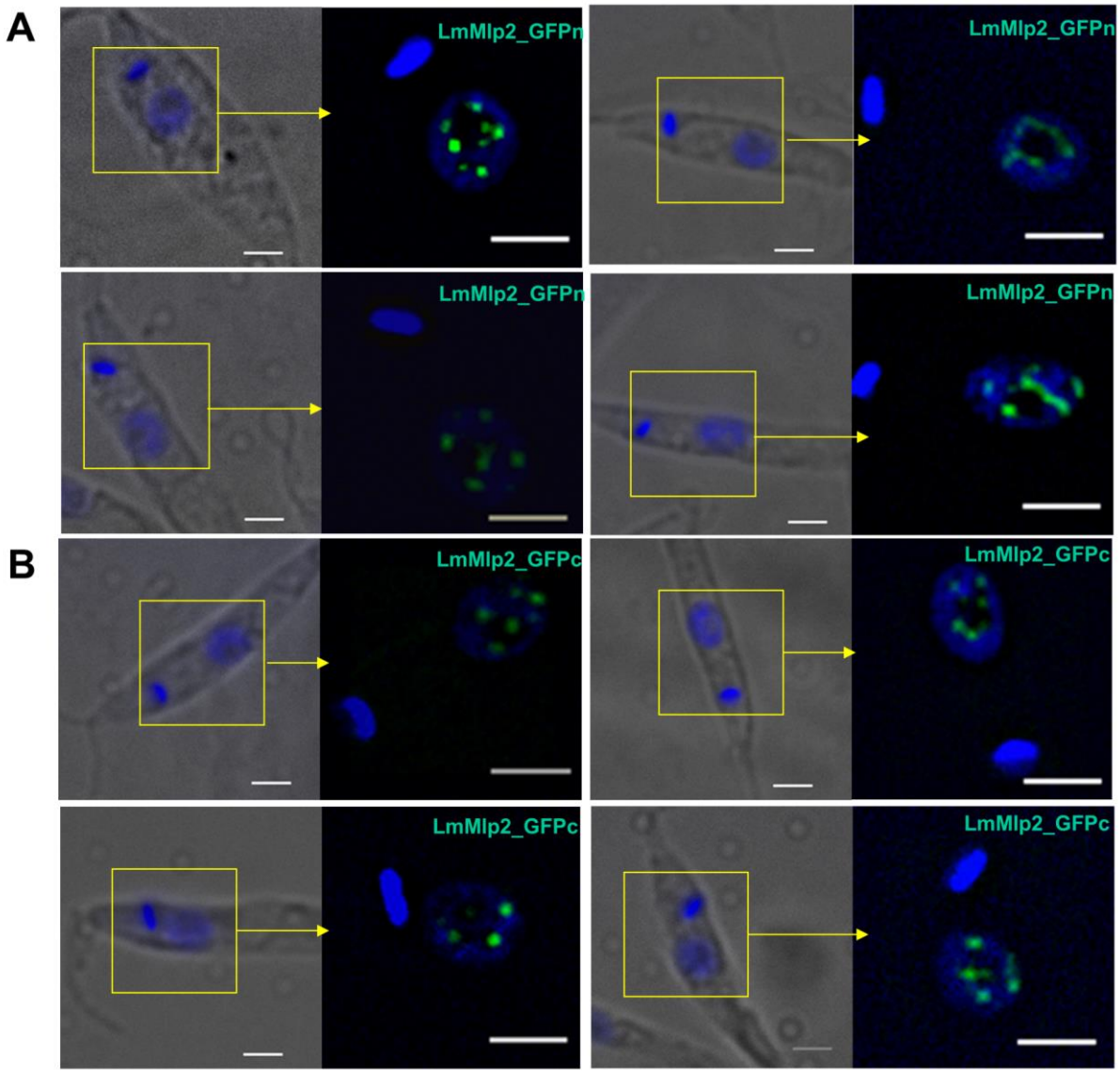

Figure S1. LmMlp2-GFP localizes at the periphery of the nucleolus in interphasic cells.

LmMlp2 N-terminally fused to the GFP (LmMlp2-GFPn)(A) displayed a localization similar to that of LmMlp2-GFPc (B) as a limited number of more or less extended dots (green) in the nucleus, at the periphery of the nucleolus (yellow arrow).

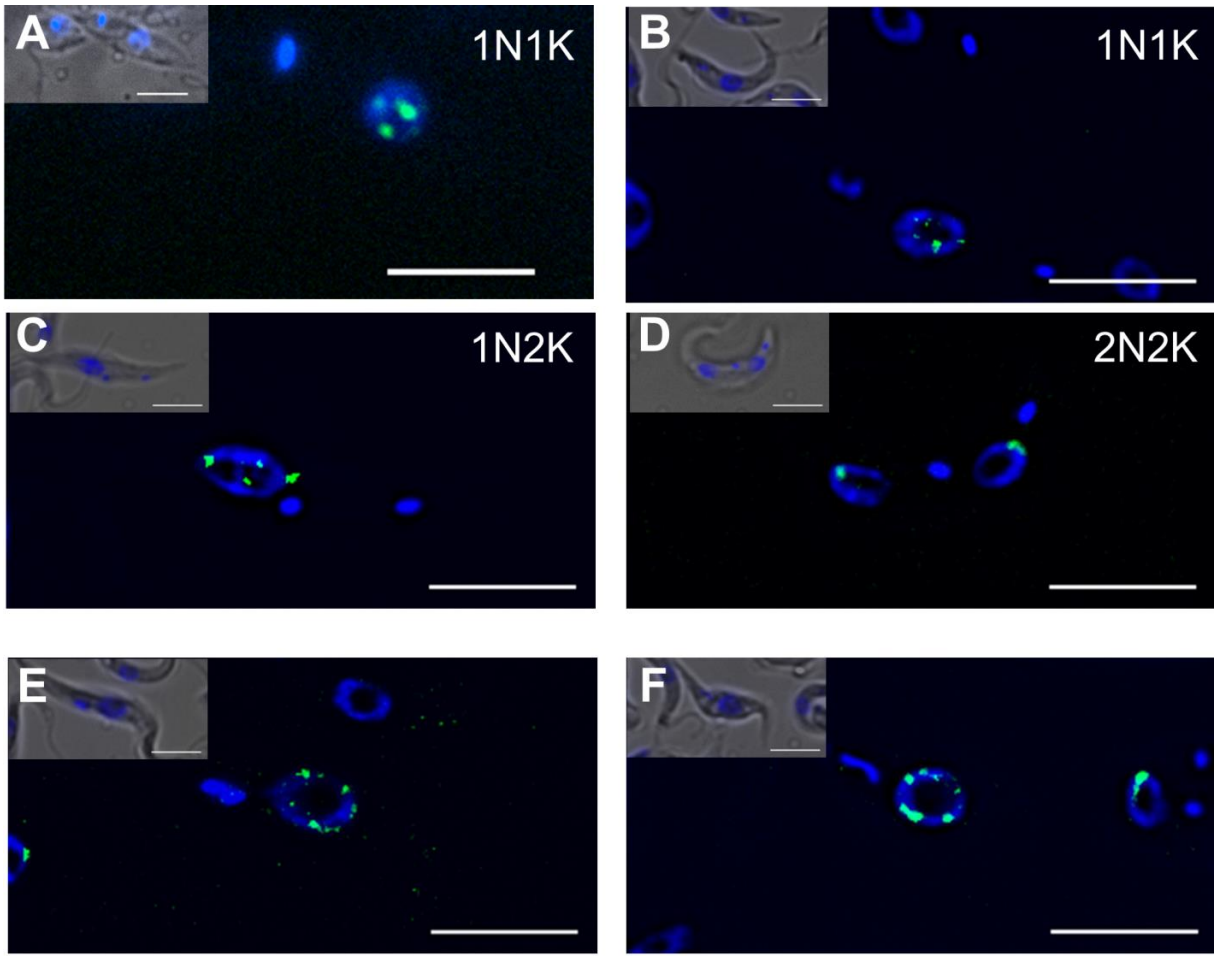

Figure S2. Subcellular localisation of the nucleoporin Mlp2 in *Trypanosoma brucei* using C-terminal in situ GFP-tagging.

(A-B) During interphase, isTbMlp2-GFPc (green) was essentially found in the nucleus, as a limited number of dots which localized at the periphery of the nucleolus. (C-D) During mitosis, the recombinant protein progressively relocalized to the spindle poles (see Fig. 2). (E-F) A perinuclear localization more typical of nucleoporins could be seen in <1% of interphasic cells.

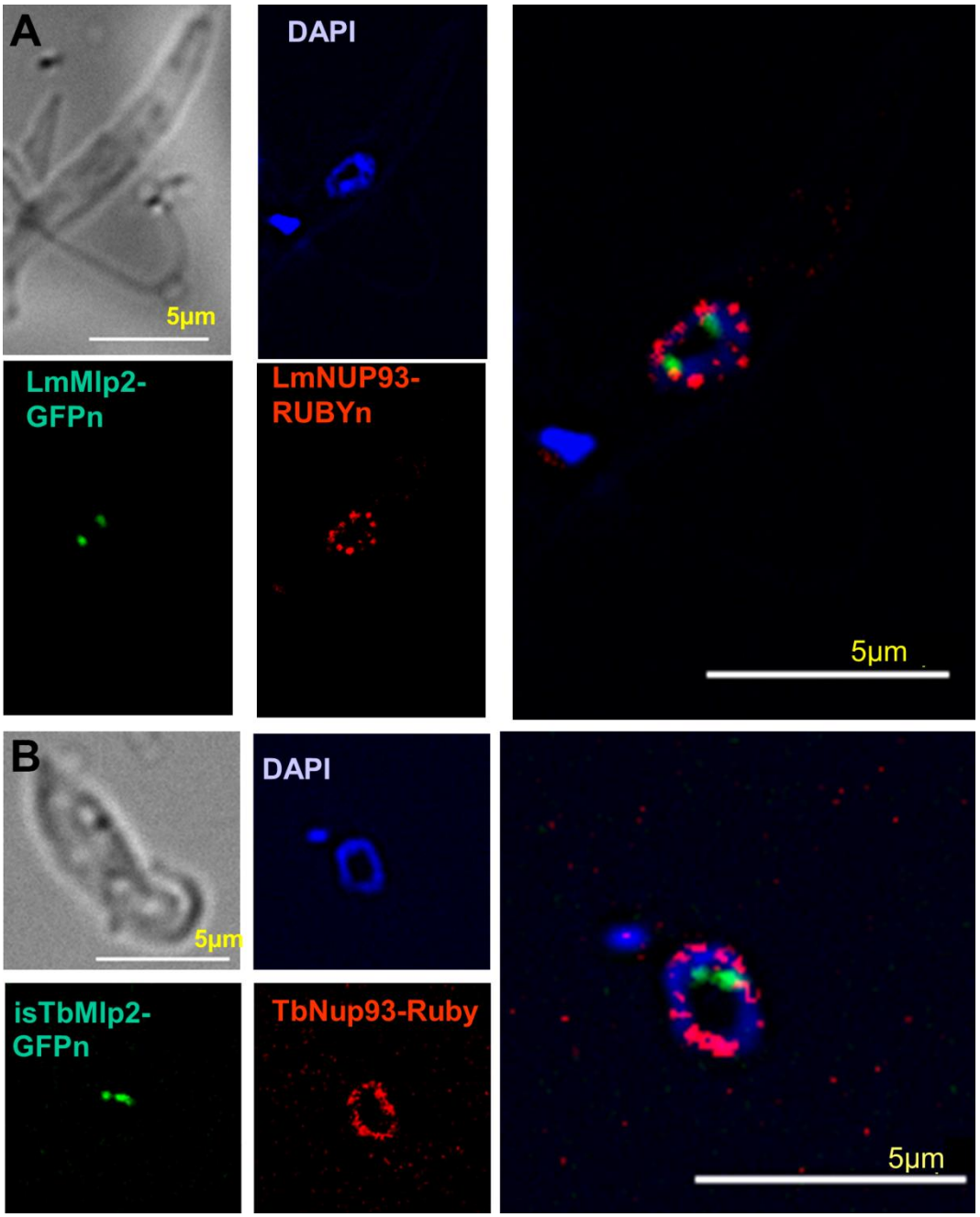

Figure S3. Comparative nuclear localization of Nup93 and Mlp2 in *L. major* and in *T. brucei.*

Both in *L. major* (A) and in *T. brucei* (B), Nup93-Ruby-n (red) was found decorating the nuclear envelope, whereas Mlp2-GFP-n (green) was present in the nucleus as a limited number of dots.

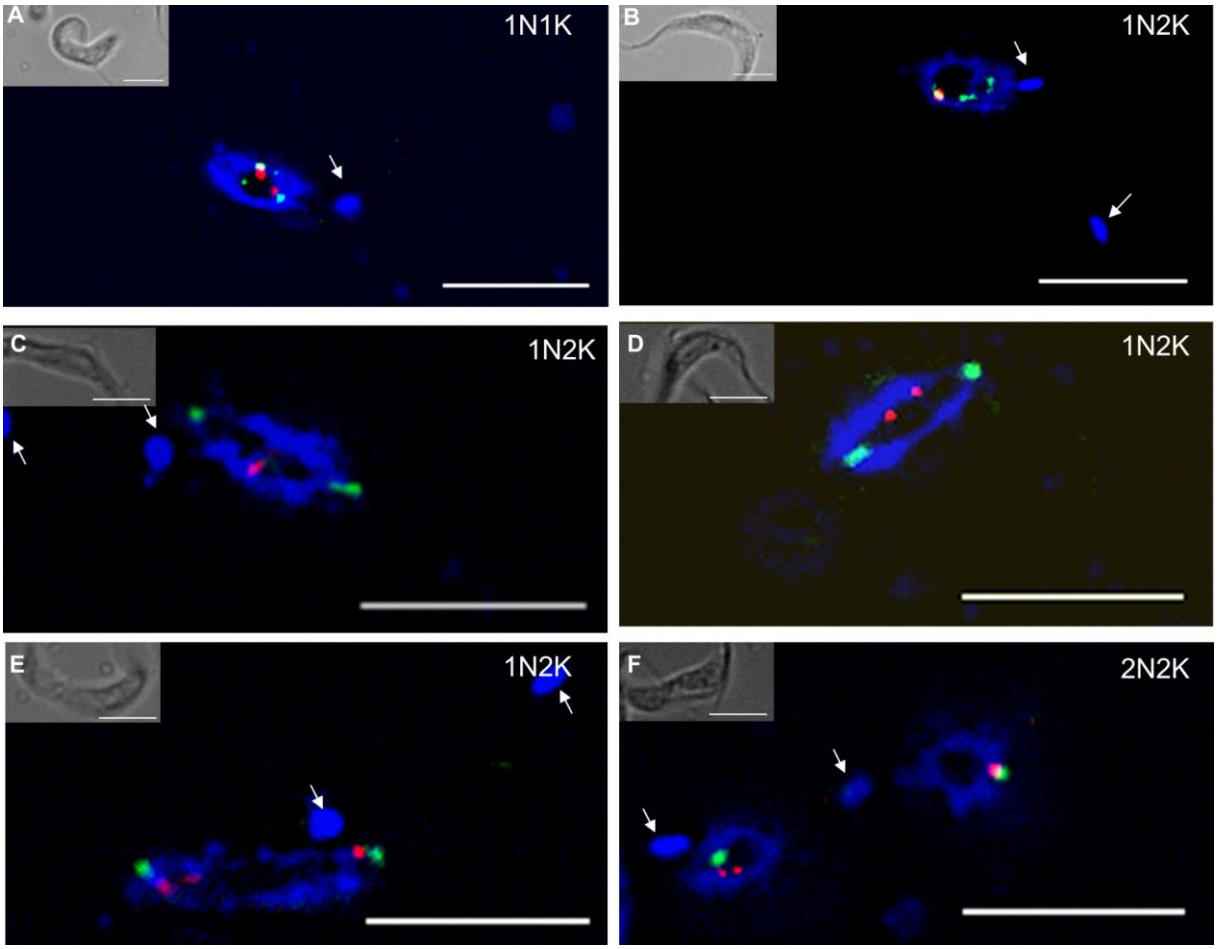

Figure S4. Dynamics of the relocation of TbMlp2 and of the centromeres of chromosome 2 during the cell cycle progress.

(A) In interphasic cells (1N1K), both isTbMlp2-GFPn (green) and the centromeres of chromosome 2 (red) were found at the periphery of the nucleolus. (B-D) During the nuclear division, a progressive migration of isTbMlp2-GFPn toward the mitotic spindle poles was observed. (E,F). The migration of the centromeres took place after isTb-Mlp2-GFPn had reached the poles. The data obtained with the centromeres of chromosome 2 (here) and chromosome 3 (Fig. 5) were similar. White arrows: kinetoplasts. Bar 5µm.

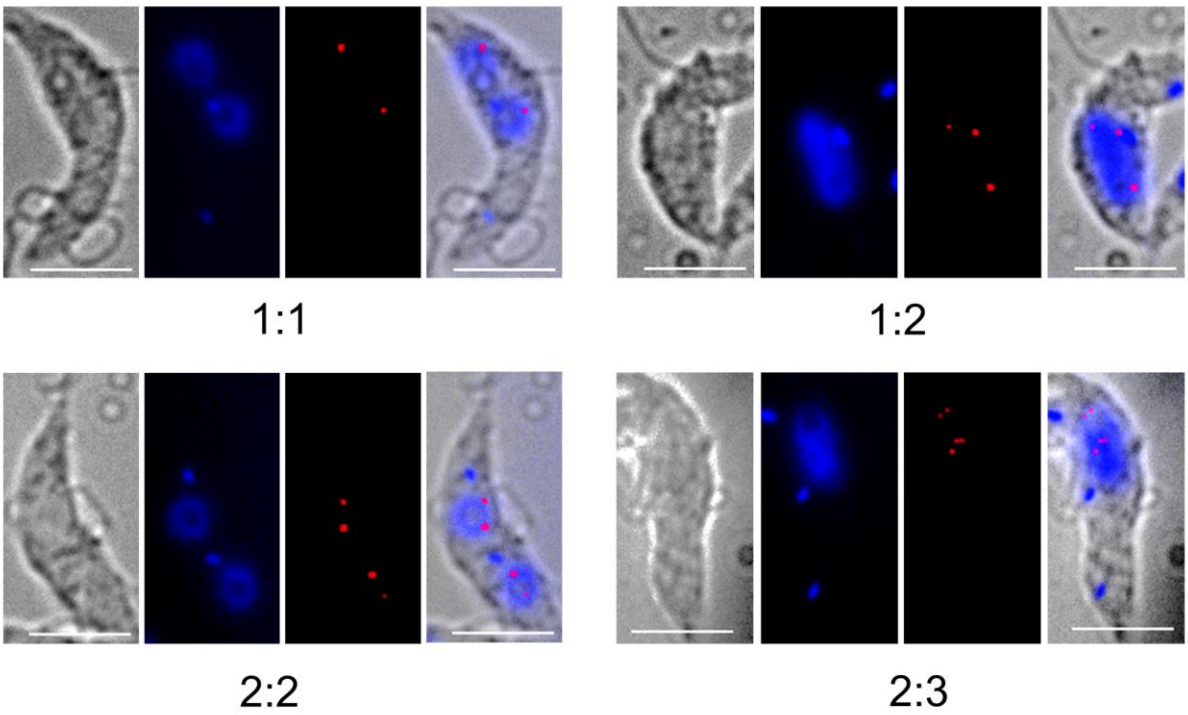

Figure S5. The RNAi-based knockdown of TbMlp2 disrupts chromosomal distribution in mitosis.

Aneuploidy may originate either from a replication defect or from an uneven segregation. Fourty-three dividing cells were analysed: 29 symmetric divisions were observed, either 1:1 (N=3), 2:2 (N=21) or 3:3 (N=5); on the other hand, 14 asymmetric divisions were also found: either 1:0 (N=1), 1:2 (N=5), 1:3 (N=6), or 2:3 (N=2). These figures do not allow distinguishing between replication and segregation defects. We could therefore only infer that TbMlp2 depletion disrupts chromosomal distribution.

Movie S1. Perinucleolar colocalisation of centromeric sequences of chromosome 3 and Mlp2-GFP-n in *T. brucei*. TbMlp2-GFPn (green) and the centromere of chromosome 3 (red) were found at the periphery of the nucleolus.