

**SUPPLEMENTARY VIDEO S1 : (S1\_Video.avi) Visualization of cell trajectories and contacts and its relationship with Myc expression.** Time lapse confocal images (Z stacks spaced at 2  $\mu\text{m}$ ) were acquired every 7 minutes from mESC expressing of GFP-MYC and tdTomato and were tracked using ESC-T. Video showing motion tracks and Myc expression in two selected cells; trajectories and color-coded MYC-GFP normalized intensity values obtained at each time-point are represented. Coordinates of cells at each time point are represented with color filling of squares corresponding to the value of mean\_compensated\_Mean\_Myc corrected measurement of the nucleus. Mitotic events, starting and final locations are represented with triangles, circles and diamonds respectively. Trajectories are highlighted in green and blue respectively.