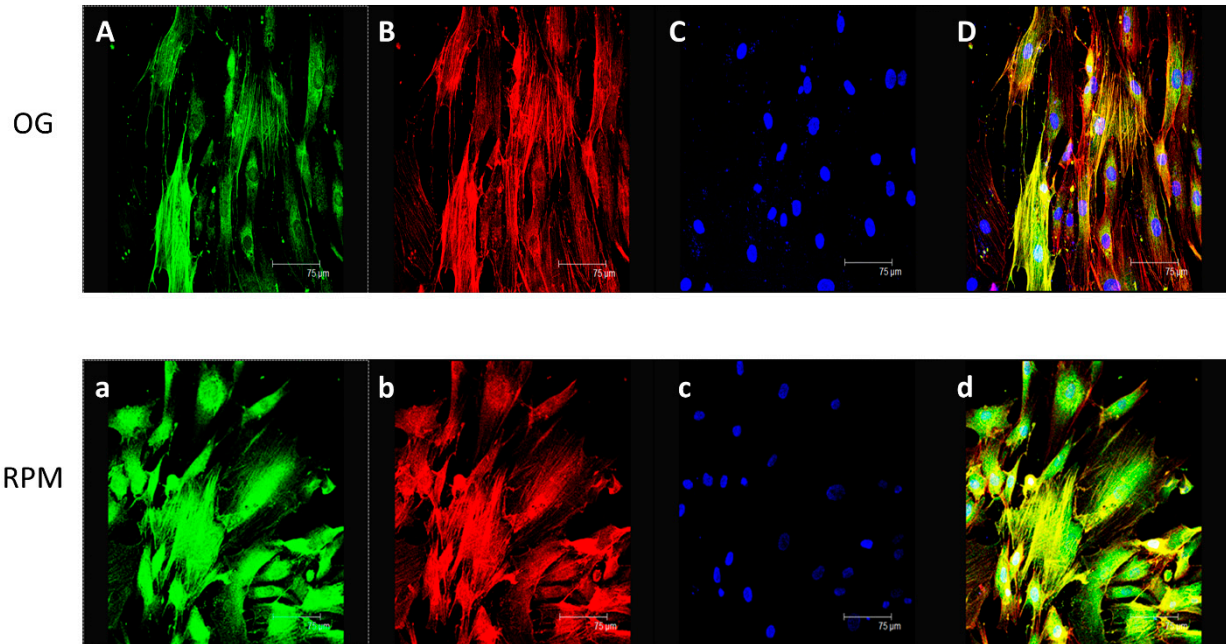
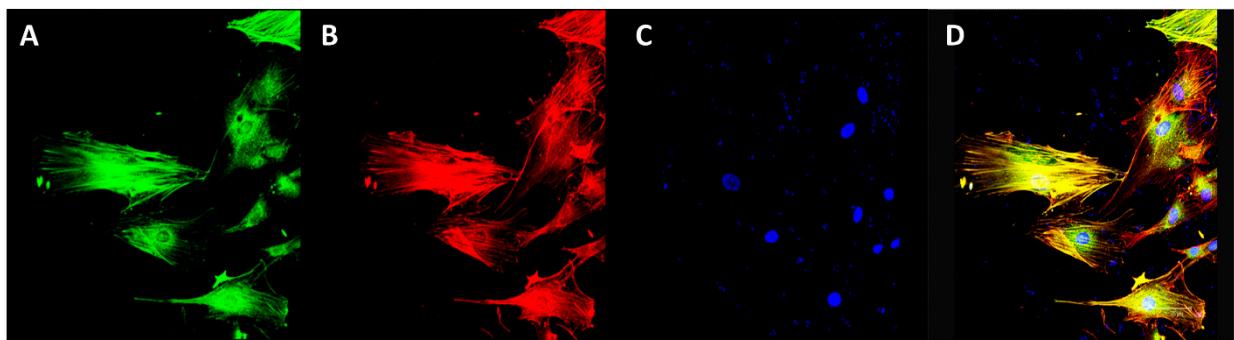


# Supplemental Material

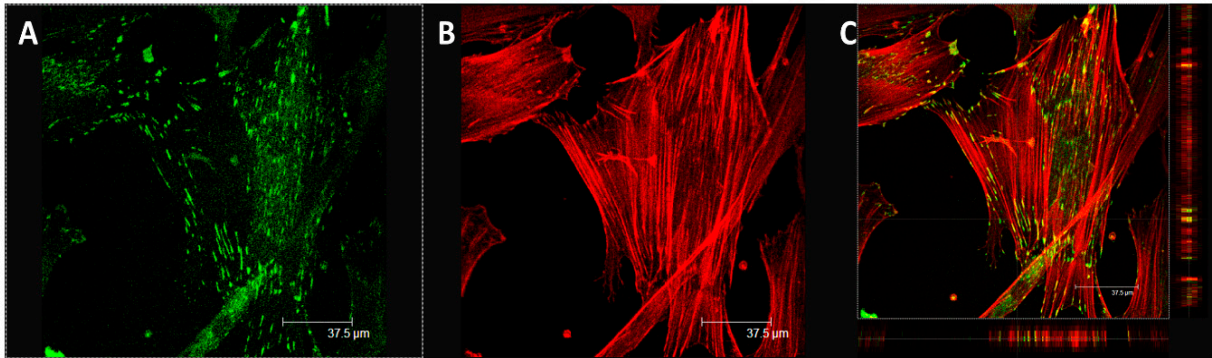


**Figure S1.** Representative images of colocalization analysis of  $\alpha$ -SMA (green) and F-actin (red) in fibroblasts cultured in OG and RPM for 48 hours. It is interesting to note how the fibroblasts after 48h of exposure to microgravity adapt and the  $\alpha$ -SMA is distributed as in the control condition.  $\alpha$ -SMA is not present in the nucleus of fibroblasts in RPM but co-localizes with the F-actin fibers along the cell membrane (Scale bars 75  $\mu$ m).



**Figure S2.** Representative images of colocalization analysis of  $\alpha$ -SMA (green) and F-actin (red) in fibroblasts cultured in RPM for 24 hours and then transferred into a normal gravitational field for further 24 hours (Recovery condition). (A):  $\alpha$ -SMA distribution is shown;  $\alpha$ -SMA recovers almost completely the distribution pattern observed in 1g cultured cells. (B): F-actin organization; (C): colocalization analysis of F-actin and  $\alpha$ -SMA, the colocalization (green and red bars) is shown. Colocalization in recovery condition appears as observed in OG condition.

## RECOVERY



**Figure S3.** Representative images of colocalization analysis of vinculin (green) and F-actin (red) in fibroblasts cultured in RPM for 24 hours, then transferred into a normal gravitational field for further 24 hours (Recovery condition). **(A):** vinculin distribution is shown; vinculin recovers almost completely the distribution pattern observed in 1g cultured cells. **(B):** F-actin organization; **(C):** colocalization analysis of F-actin and vinculin., the colocalization (green and red bars) is shown. Colocalization in recovery condition appears in focal contacts as observed in OG condition. Scale bars 37,5  $\mu\text{m}$ .