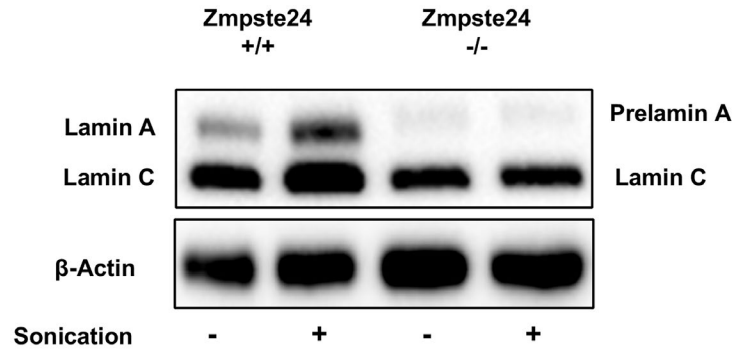
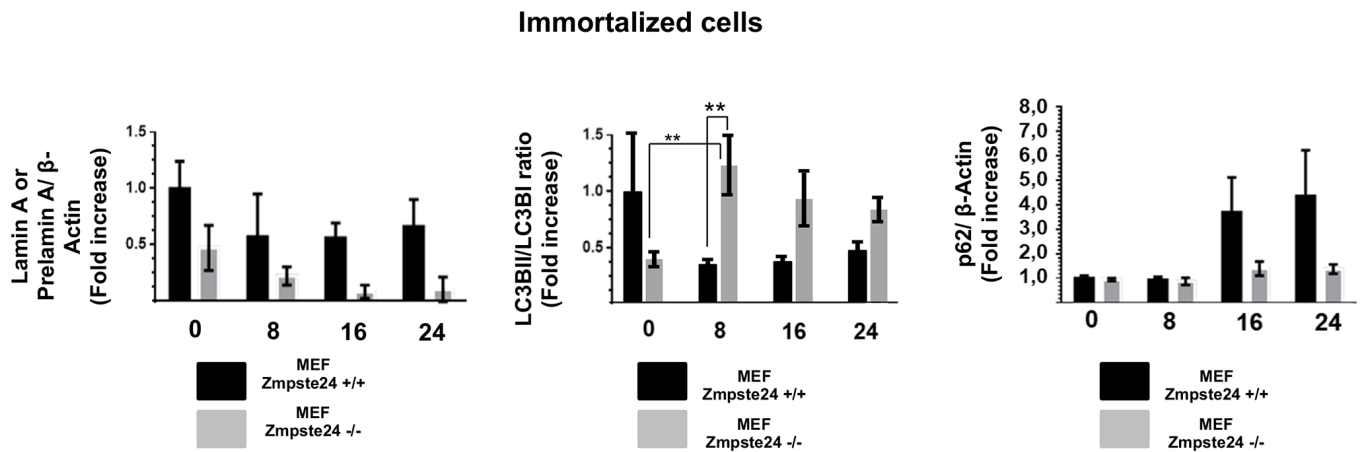


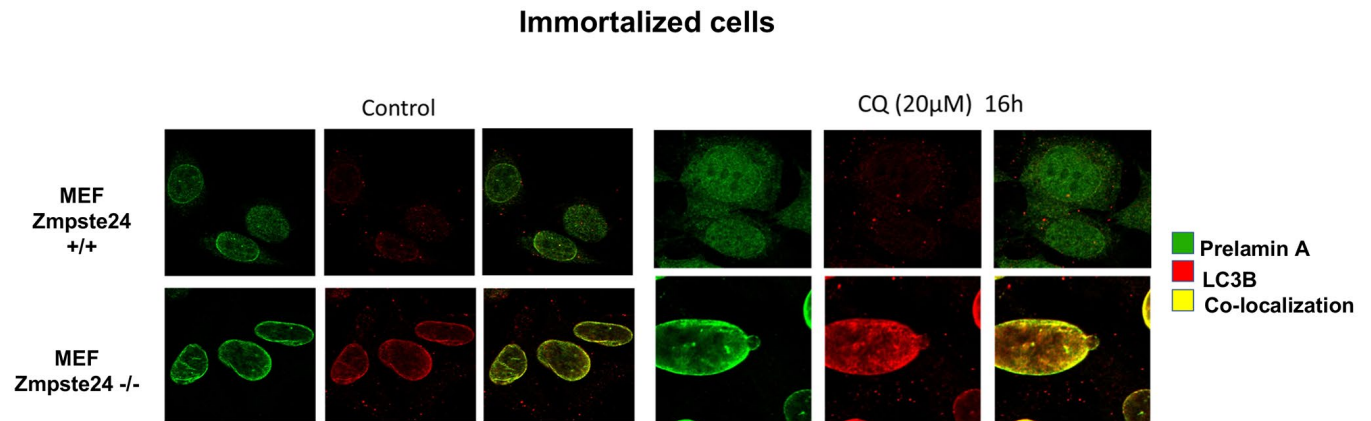
SUPPLEMENTARY FIGURES



Supplementary Figure 1. Immunoblot analysis of Lamin A (in MEF Zmpste24 WT cells) and prelamin A (in MEF Zmpste24 KO cells) after sonication of cell extracts, using β-actin as loading control (n = 1).

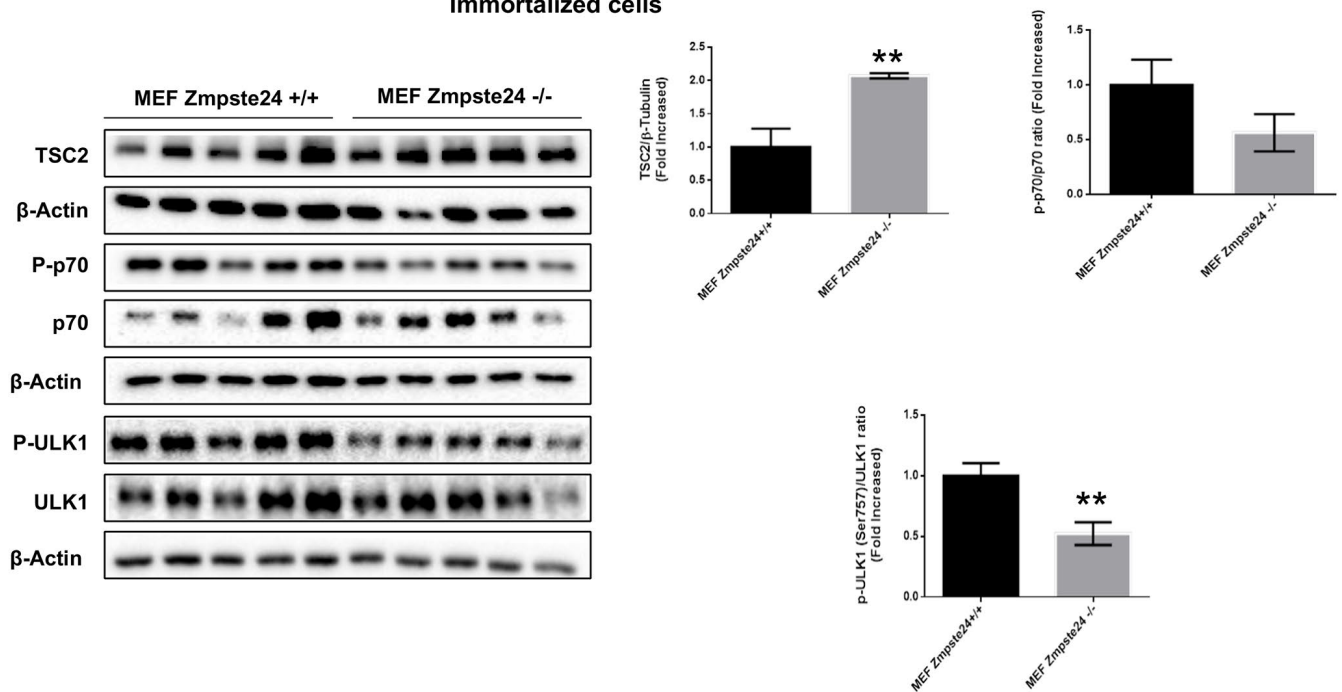


Supplementary Figure 2. Quantification data of Lamin A or prelamin A/β-actin ratio, p62/β-actin ratio and LC3B II/LC3B I ratio in the cell extracts treated with CQ (20 μM) during 0, 8, 16 and 24 hours (n = 5). Data represent the mean ± standard error of the mean (SEM). Differences were determined by Dunnett's multiple comparisons test. \*\*p < 0,01 (n = 5).

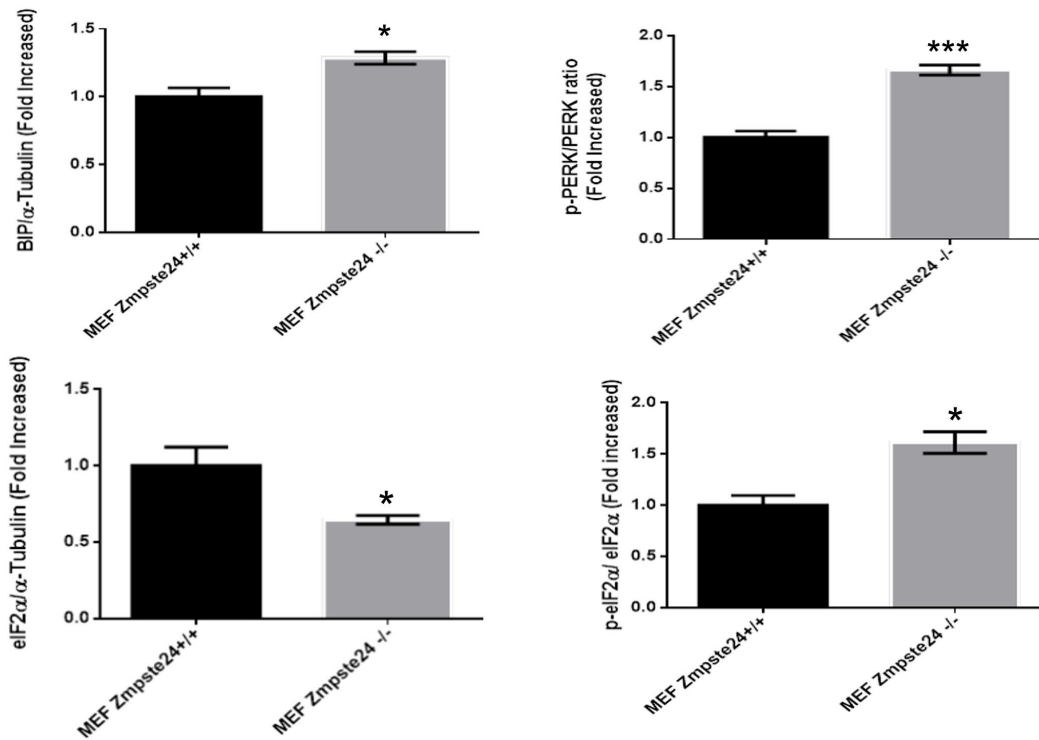


Supplementary Figure 3. Immunofluorescence of MEF Zmpste24 WT and KO cells under basal state and treated with CQ (20 μM) during 16 hours using both an LC3B II/I antibody and a prelamin A antibody to see the co-localization signal.

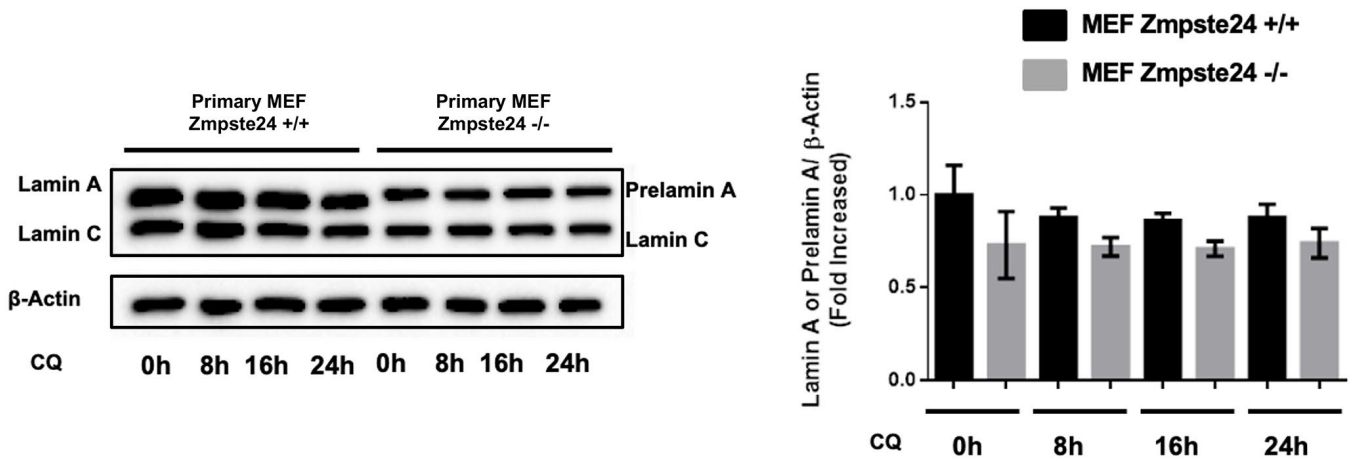
### Immortalized cells



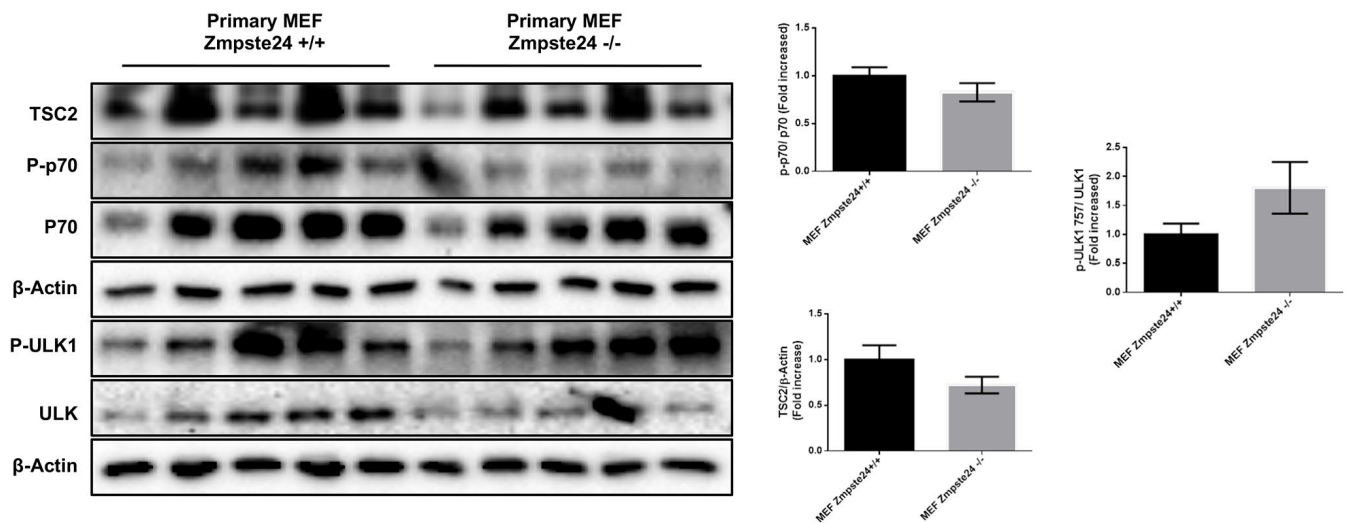
**Supplementary Figure 4. mTORC1 pathway.** Immunoblot analysis in immortalized MEF Zmpste24 WT and KO cells of TSC2, p-p70/p70 ratio, p-ULK-1/ULK ratio using β actin as loading control, in the cell extracts in basal state ( $n = 5$ ). Quantification data of TSC2/β-actin, P-p70/p70 ratio, P-ULK-1/ULK ratio in basal state ( $n = 5$ ). Data represent the mean  $\pm$  standard error of the mean (SEM). Differences were determined by unpaired Student  $t$ -test analysis. \*\* $p < 0,01$  ( $n = 5$ ).



**Supplementary Figure 5. Quantification and statistical analysis of BIP/Tubulin; phospho-PERK/PERK; phospho-eIF2-alpha/eIF2-alpha and eIF2-alpha/Tubulin.** Data represent the mean  $\pm$  standard error of the mean (SEM). Differences were determined by unpaired Student  $t$ -test analysis.



**Supplementary Figure 6. Immunoblot analysis of Lamin A (in Primary MEF Zmpste24 WT cells) and prelamin A (in Primary MEF Zmpste24 KO cells), using  $\beta$  actin as loading control, in the cell extracts treated with CQ (20  $\mu$ M) during 0, 8, 16 and 24 hours ( $n = 5$ ). The plot indicates the quantification data of Lamin A or prelamin A/ $\beta$ -actin ratio in the cell extracts treated with CQ (20  $\mu$ M) during 0, 8, 16 and 24 hours ( $n = 5$ ). Data represent the mean  $\pm$  standard error of the mean (SEM). Differences were determined by Dunnett's multiple comparisons test.**



**Supplementary Figure 7. mTORC1 pathway.** Immunoblot analysis in Primary MEF Zmpste24 WT and KO cells of TSC2, p-p70/p70 ratio, p-ULK/ULK ratio using  $\beta$ -actin as loading control, in the cell extracts in basal state ( $n = 5$ ). Quantification data of TSC2/ $\beta$ -actin, P-p70/p70 ratio, P-ULK/ULK ratio in basal state ( $n = 5$ ). Data represent the mean  $\pm$  standard error of the mean (SEM). Differences were determined by unpaired Student  $t$ -test analysis.