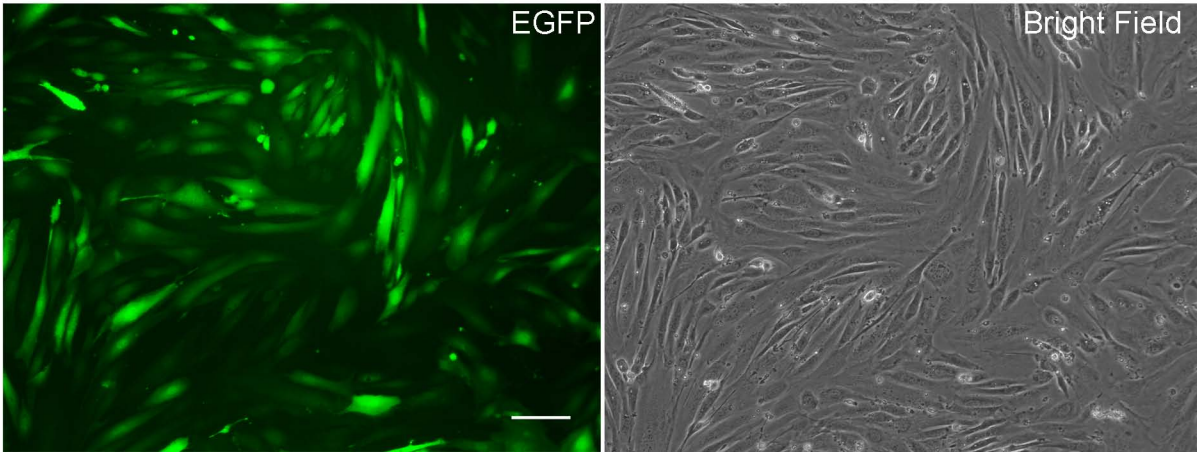
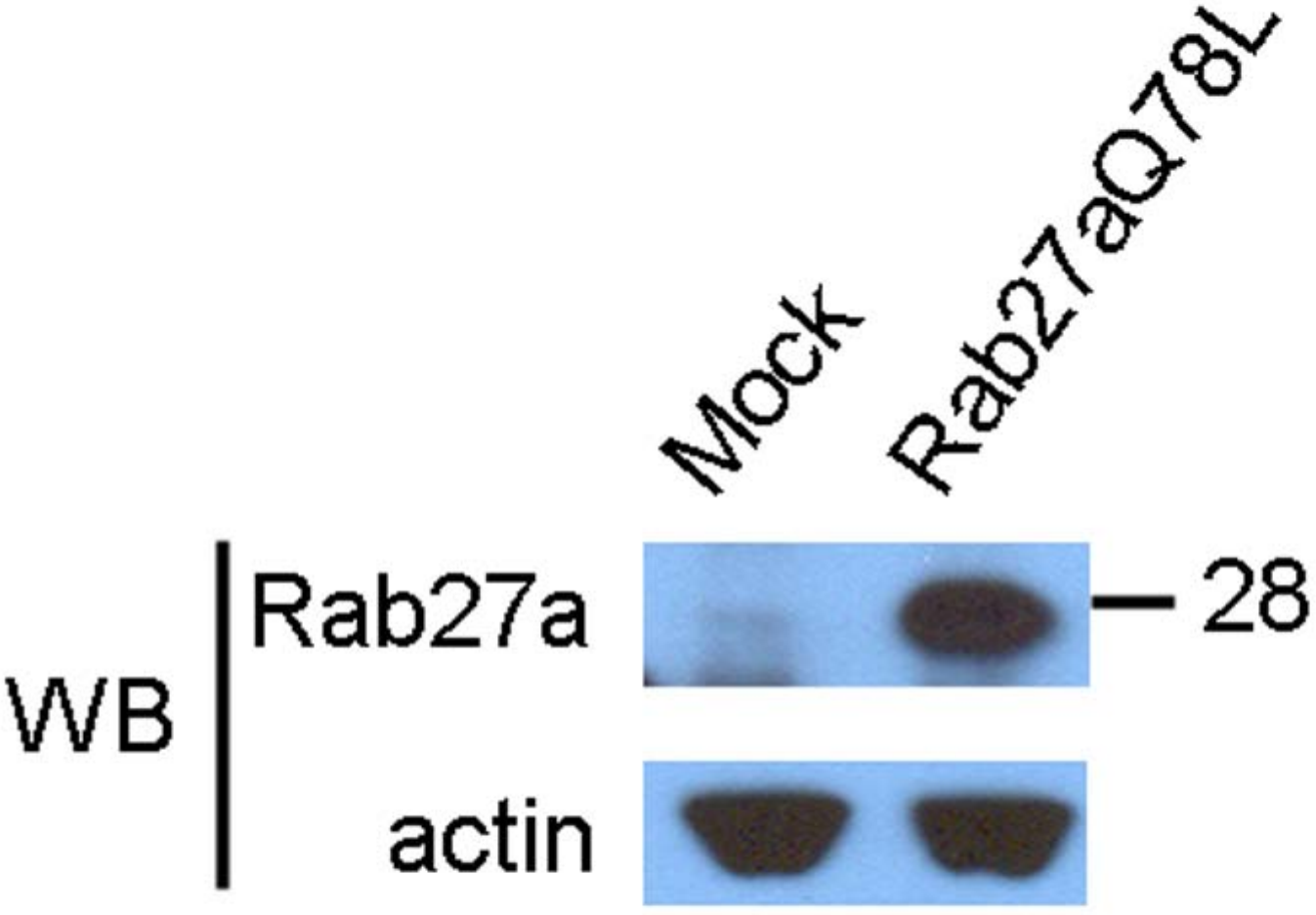
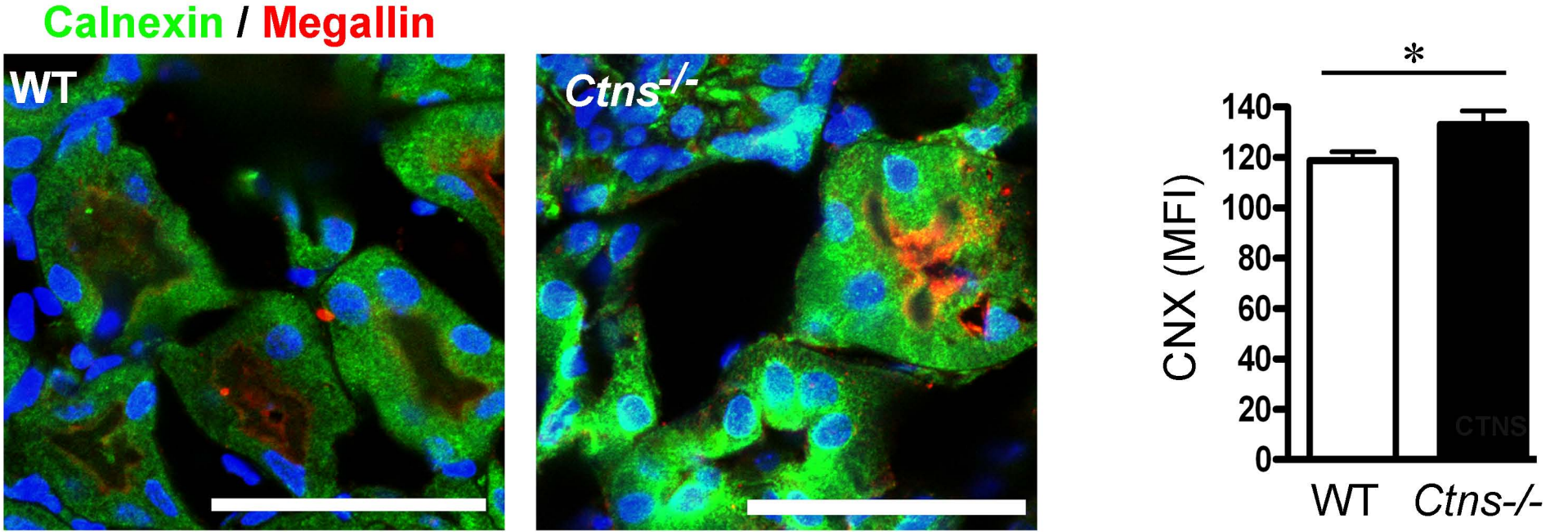
Supplementary Figure S1. Johnson et al



Johnson et al, Supplementary data, Figure S2



Supplementary Figure S3. Johnson et al



SUPPLEMENTARY DATA

Movie 1. *Lysosomal trafficking in wild type fibroblast*
Cells were labeled with the lysosomal probe LysoTracker and analyzed by TIRFM as described under "Materials and Methods". Movies were continuously recorded for 120 s and are shown at 7fps.

Movie 2. *Lysosomal trafficking in cystinotic fibroblast*
Cells were labeled with the lysosomal probe LysoTracker and analyzed by TIRFM as described under "Materials and Methods". Movies were continuously recorded for 120 s and are shown at 7fps.

Movie 3. *Lysosomal trafficking in cystinotic fibroblast expressing a constitutively active form of Rab27a*
Cells were labeled with the lysosomal probe LysoTracker and analyzed by TIRFM as described under "Materials and Methods". Movies were continuously recorded for 120 s and are shown at 7fps.

Movie 4. *Lysosomal trafficking in cystinotic fibroblast expressing a constitutively active form of Rab7*
Cells were labeled with the lysosomal probe LysoTracker and analyzed by TIRFM as described under "Materials and Methods". Movies were continuously recorded for 120 s and are shown at 7fps.

Supplementary Figure S1
Murine fibroblasts transduction using the lentiviral expression system
Representative image of *Ctns*$^{-/-}$ murine fibroblast transduced with the p-LV-EGFP-expression vector. Scale bar= 10 μm.

Supplementary Figure S2
Expression of Rab27aQ78L relative to endogenous Rab27a in cystinotic fibroblast
Western blot analysis of cystinotic fibroblast showing Rab27a expression levels in Rab27aQ78L-infected or mock infected cells.

Supplementary Figure S3
Immunofluorescence analysis of the expression of endogenous calnexin (CNX) in PTCs from wild type and cystinotic mice.
Immunofluorescence analysis of calnexin was performed as described under "Materials and Methods". Scale bar = 50 μm. For quantification of the mean fluorescence intensity (MFI) of endogenous calnexin, four to six proximal tubules from at least 5 different areas from 3 independent wild type (WT) or *Ctns*$^{-/-}$ mice were analyzed. A total of 69 and 58 proximal tubules from wild type and *Ctns*$^{-/-}$ kidneys, respectively, were included in the analysis. Mean ± SEM, ∗, $p<0.05$.