### Supporting Information

**Table 1 – Antibodies list**

| Antibody Description                        | WB/FTA analysis dilution | IF/STED analysis dilution |
|---------------------------------------------|--------------------------|----------------------------|
| mouse anti-VCP #ab11433                     | 1:1,000                  |                            |
| rabbit anti-histone H3 #ab1791              | 1:40,000                 |                            |
| mouse anti-FLAG #F1804                      | 1:1,000  1:500           |                            |
| rabbit anti-SQSTM1/p62 #P0067               | 1:1,000  1:500           |                            |
| rabbit anti-MAP1LC3BA/B #L8919              | 1:1,000  1:500           |                            |
| rabbit anti-TFE3 #HPA023881                 | 1:3,000                  |                            |
| rabbit anti-TFEB #A303-673A                 | 1:3,000                  |                            |
| mouse anti-α-tubulin #T6199                 | 1:3,000                  |                            |
| rabbit anti-SOD1 #ADI-SOD-100               | 1:1,000  1:200           |                            |
| rabbit anti-GAPDH #sc-25778                 | 1:3,000                  |                            |
| mouse anti-6xHIS #MA1-21315                 | 1:1,000  1:500           |                            |
| goat anti-rabbit IgG-HRP #111-035-003       | 1:10,000                 |                            |
| goat anti-mouse IgG-HRP #115-035-003        | 1:10,000                 |                            |
| goat anti-mouse 549 Alexa Fluor® #A11072    | 1:1,000                  |                            |
| goat anti-rabbit 488 Alexa Fluor® #A11070   | 1:1,000                  |                            |
|                | pCDNA3 | pFLAG-VCP WT | pFLAG-VCP R155H | pFLAG-VCP R191Q | p6xHIS-VCP WT | p6xHIS-VCP R155H | p6xHIS-VCP R191Q | pEGFP-LGALS3 | pEGFP-N1-TFEB | pEGFP-N1-TFE3 | pLAMP1-GFP | pSOD1 WT | pSOD1 G93A |
|----------------|--------|-------------|----------------|----------------|---------------|----------------|----------------|---------------|---------------|---------------|------------|-----------|-----------|
| Figure 1C      | 0.8µg  | 0.8µg       | 0.8µg          | 0.8µg          | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2A      | 0.5µg  | 0.5µg       | 0.5µg          | 0.5µg          | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2B      | 1µg    | 1µg         | 1µg            | 1µg            | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2C      | 1µg    | 1µg         | 1µg            | 1µg            | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2D      | 1µg    | 1µg         | 1µg            | 1µg            | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2E      | 0.3µg  | -           | -              | -              | 0.3µg         | 0.3µg          | 0.3µg          | -             | -             | 0.2µg         | -         | -         | -         |
| Figure 2F      | -      | -           | -              | -              | -             | 0.3µg          | 0.3µg          | 0.3µg         | -             | -             | 0.2µg      | -         | -         |
| Figure 2G      | 1µg    | 1µg         | 1µg            | 1µg            | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2H      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2I      | -      | -           | -              | -              | -             | 0.3µg          | 0.3µg          | 0.3µg         | 0.2µg         | -             | -         | -         | -         |
| Figure 2J      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2K      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2L      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2M      | 0.5µg  | 0.5µg       | 0.5µg          | 0.5µg          | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2N      | 0.5µg  | 0.5µg       | 0.5µg          | 0.5µg          | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2O      | 0.5µg  | 0.5µg       | 0.5µg          | 0.5µg          | -             | -              | -              | -             | -             | -             | -         | -         | -         |
| Figure 2P      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2Q      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2R      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2S      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2T      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2U      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2V      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2W      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2X      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2Y      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |
| Figure 2Z      | 0.3µg  | 0.3µg       | 0.3µg          | 0.3µg          | -             | -              | -              | 0.2µg         | -             | -             | -         | -         | -         |

**Table 2 – Plasmid list and used quantities**
Table 3 – RNA Quantification of figure 7A

|   | Sample ID | Nucleic Acid Conc | Unit | A260 | A280 | 260/280 | 260/230 | Sample Type | Factor |
|---|------------|--------------------|------|------|------|---------|---------|-------------|--------|
| 1 | NT siRNA  | 0.5554 µg/µl |      | 13,886 | 7,103 | 1.96 | 2.21 | RNA | 40     |
| 2 | NT siRNA  | 0.7354 µg/µl |      | 18,386 | 9,376 | 1.96 | 2.32 | RNA | 40     |
| 3 | NT siRNA  | 0.7654 µg/µl |      | 19,134 | 9.7   | 1.97 | 2.22 | RNA | 40     |
| 4 | NT siRNA  | 0.7658 µg/µl |      | 19,146 | 9,762 | 1.96 | 2.22 | RNA | 40     |
| 5 | PPP3CB siRNA | 0.4431 µg/µl |      | 11,077 | 5,801 | 1.91 | 2.19 | RNA | 40     |
| 6 | PPP3CB siRNA | 0.289 µg/µl |      | 7,225  | 3,833 | 1.89 | 2.26 | RNA | 40     |
| 7 | PPP3CB siRNA | 0.3126 µg/µl |      | 7,816  | 4,068 | 1.92 | 2.23 | RNA | 40     |
| 8 | PPP3CB siRNA | 0.376 µg/µl |      | 9,399  | 4,881 | 1.93 | 2.07 | RNA | 40     |

Table 4 – RNA Quantification of figure 5O

|   | Sample ID | Nucleic Acid Conc | Unit | A260 | A280 | 260/280 | 260/230 | Sample Type | Factor |
|---|------------|--------------------|------|------|------|---------|---------|-------------|--------|
| 1 | pCDNA3    | 0.5983 µg/µl |      | 14,956 | 7,646 | 1.96 | 2.15 | RNA | 40     |
| 2 | pCDNA3    | 0.6224 µg/µl |      | 15,559 | 8,001 | 1.94 | 2   | RNA | 40     |
| 3 | pCDNA3    | 0.557 µg/µl  |      | 13,924 | 7,103 | 1.96 | 1.86 | RNA | 40     |
| 4 | pCDNA3    | 0.4293 µg/µl |      | 10,732 | 5,551 | 1.93 | 1.94 | RNA | 40     |
| 5 | VCP WT    | 0.5694 µg/µl |      | 14,234 | 7,31  | 1.95 | 2   | RNA | 40     |
| 6 | VCP WT    | 0.2806 µg/µl |      | 7,014  | 3,655 | 1.92 | 1.97 | RNA | 40     |
| 7 | VCP WT    | 0.4564 µg/µl |      | 11,409 | 5,933 | 1.92 | 2.07 | RNA | 40     |
| 8 | VCP WT    | 0.4455 µg/µl |      | 11,139 | 5,82  | 1.91 | 2.11 | RNA | 40     |
| 9 | VCP R155H | 0.3591 µg/µl |      | 8,977  | 4,682 | 1.92 | 2.07 | RNA | 40     |
| 10| VCP R155H | 0.4387 µg/µl |      | 10,968 | 5,617 | 1.95 | 1.77 | RNA | 40     |
| 11| VCP R155H | 0.4333 µg/µl |      | 10,831 | 5,428 | 2   | 1.6  | RNA | 40     |
| 12| VCP R155H | 0.4607 µg/µl |      | 11,517 | 5,936 | 1.94 | 2.07 | RNA | 40     |
| 13| VCP R191Q | 0.1783 µg/µl |      | 4,458  | 2,405 | 1.85 | 2   | RNA | 40     |
| 14| VCP R191Q | 0.3821 µg/µl |      | 9,553  | 5,049 | 1.89 | 2   | RNA | 40     |
| 15| VCP R191Q | 0.1985 µg/µl |      | 4,963  | 2,594 | 1.91 | 1.84 | RNA | 40     |
| 16| VCP R191Q | 0.3078 µg/µl |      | 7,694  | 4,075 | 1.89 | 2.09 | RNA | 40     |