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**Supplementary Data**

SARS-CoV-2 Nsp8 induces mitophagy by damaging mitochondria

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**Supplementary Table S1** Primers for plasmid construction used in this study.

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| Primer | Sequence 5`–3` |
| Nsp1-F | CGGAATTCGGATGGAGAGCCTTGTCCCTG |
| Nsp1-R | CCCTCGAGTTACCCTCCGTTAAGCTCACG |
| Nsp2-F | GCGTCGACCGCATACACTCGCTATGTCGATAAC |
| Nsp2-R | GGGGTACCTTAACCGCCTTTGAGTGTGAAGG |
| Nsp3-F | CGGAATTCGGGCACCAACAAAGGTTACTTTTG |
| Nsp3-R | CCCTCGAGTTACCACCCTTAAGTGCTATCTTTG |
| Nsp4-F | CGGAATTCGGAAAATTGTTAATAATTGGTTGAAGC |
| Nsp4-R | CCCTCGAGTTACTGCAAAACAGCTGAGGTGAT |
| Nsp5-F | CGGAATTCGGAGTGGTTTTAGAAAAATGGCATT |
| Nsp5-R | CCCTCGAGTTATTGGAAAGTAACACCTGAGCATT |
| Nsp6-F | GCGTCGACCAGTGCAGTGAAAAGAACAATCAAG |
| Nsp6-R | GGGGTACCTTACTGTACAGTGGCTACTTTGATACAAG |
| Nsp7-F | CGGAATTCGGTCTAAAATGTCAGATGTAAAGTGCA |
| Nsp7-R | CCCTCGAGTTATTGTAAGGTTGCCCTGTTGTC |
| Nsp8-F | CGGAATTCGGGCTATAGCCTCAGAGTTTAGTTCC |
| Nsp8-R | CCCTCGAGTTACTGTAATTTGACAGCAGAATTGG |
| Nsp9-F | CGGAATTCGGAATAATGAGCTTAGTCCTGTTGCA |
| Nsp9-R | CCCTCGAGTTATTGTAGACGTACTGTGGCAGCT |
| Nsp10-F | CGGAATTCGGGCTGGTAATGCAACAGAAGTG |
| Nsp10-R | CCCTCGAGTTACTGAAGCATGGGTTCGC |
| Nsp12-F | CGGAATTCGGTGCACAATCGTTTTTAAACG |
| Nsp12-R | CCCTCGAGTTACTGTAAGACTGTATGCGGTGTG |
| Nsp13-F | GCGTCGACCGCTGTTGGGGCTTGTGTTC |
| Nsp13-R | GGGGTACCTTATTGTAAAGTTGCCACATTCCTAC |
| Nsp14-F | CGGAATTCGGGCTGAAAATGTAACAGGACTCTTT |
| Nsp14-R | CCCTCGAGTTACTGAAGTCTTGTAAAAGTGTTCCAG |
| Nsp15-F | GCGTCGACCAGTTTAGAAAATGTGGCTTTTAATG |
| Nsp15-R | GGGGTACCTTATTGTAATTTTGGGTAAAATGTTTCT |
| Nsp16-F | CGGAATTCGGTCTAGTCAAGCGTGGCAACC |
| Nsp16-R | CCCTCGAGTTAGTTGTTAACAAGAACATCACTAGAAAT |
| GFP-Nsp8-F | CCGCTCGAGGCTATAGCCTCAGAGTTTAGTTCC |
| GFP-Nsp8-R | GAAT GCGGCCGC TTACTGTAATTTGACAGCAGAATTG |
| Nsp8-N-F | CCCTCGAGGGATGGCTATAGCCTCAGAGTTTAGTT |
| Nsp8-N-R | TTGCGGCCGCAATTACAACTTTCTAAGCATAGTGAAAAG |
| Nsp8-C-F | CCCTCGAGGGATGGATAATGATGCACTCAACAA |
| Nsp8-C-R | TTGCGGCCGCAATTACTGTAATTTGACAGCAGAATTG |
| GFP-Nsp8-N-F | CCGCTCGAGCGGATGGCTATAGCCTCAGAGTTTAGTT |
| GFP-Nsp8-N-R | TTGCGGCCGCAATTACAACTTTCTAAGCATAGTGAAAAG |
| GFP-Nsp8-N-F | CCGCTCGAGCGGATGGATAATGATGCACTCAACAA |
| GFP-Nsp8-N-R | TTGCGGCCGCAATTACTGTAATTTGACAGCAGAATTG |
| pCDH-Nsp8-F | CGGAATTCATG GCTATAGCCTCAGAGTTTAGTTCC |
| pCDH-Nsp8-R | CGGGATCC CTGTAATTTGACAGCAGAATTGG |

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**Supplementary Fig S1.** Generation of Nsp8 expression cell lines. **A** A549 or A549-Nsp8 cells (Nsp8 expression cell lines) were measured fluorescence intensity by flow cytometry. **B** A549 cells were transfected with 2 μg GFP-Nsp8 plasmid for 24 h. Then, A549 or A549-Nsp8 cells were detected by fluorescence microscopy. Scale bar = 200 μm. **C** A549 or A549-Nsp8 cells were collected and lysed. LC3, Flag-Nsp8, and β-actin (loading control) were analyzed by Western blotting.

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**Supplementary Fig S2.** Analysis of SARS-CoV-2 non-structural proteins in autophagy. **A** A549 cells were transfected with 2 μg Flag-Nsp1 to Flag-Nsp10 and Flag-Nsp12 to Flag-Nsp16 plasmids for 24 h. Flag-Nsp1 to Flag-Nsp16 without Flag-Nsp11 and LC3 expression levels were detected by Western blotting. **B** A549 cells were transfected with 2 μg indicated plasmids for 24 h or treated with 50 μmol/L CQ for 6 h or EBSS for 1 h before harvesting. LC3, Flag-Nsp8, and β-actin (loading control) were analyzed by Western blotting.