



2 **Fig. S1.** Statistics of relative gray values from Western blot analysis of human PBMCs and Beas-

3 2B cells under various treatments. (A) Western blot assessment of relative expression levels of LC3,
4 TUFM, ATG5, TOMM20, and COXIV in PBMCs from healthy volunteers and RSV-infected
5 patients. n= 9. $^*P < 0.05$ vs. Normal group. (B) Western blot evaluation of relative expression levels
6 of ATG5, LC3II/I, TOM20, VDAC1, and COXIV in Beas-2B cells after RSV-NS1 overexpression.
7 n = 3. $^*P < 0.05$ vs. oe-NC group. (C) Western blot analysis of TUFM relative expression levels in
8 Beas-2B cells transfected with TUFM silencing plasmids (#1–3) and control plasmid. n = 3. $^*P <$
9 0.05 vs. si-NC group. (D) Western blot analysis of relative expression levels of ATG5, LC3II/I,
10 TOM20, VDAC1, and COXIV in Beas-2B cells overexpressing RSV-NS1 after TUFM silencing.
11 n = 3. $^*P < 0.05$ vs. oe-NC group; $^{\#}P < 0.05$ vs. oe-RSV-NS1+si-NC group. (E) Western blot
12 analysis of LC3II/I and TOM20 expression changes in Beas-2B cells following vitamin D
13 intervention at different concentrations. (F) Western blot analysis of relative expression levels of
14 ATG5, LC3II/I, TOM20, VDAC1, and COXIV in Beas-2B cells treated with 10 μ M vitamin D. n
15 = 3. $^*P < 0.05$ vs. oe-NC group; $^{\#}P < 0.05$ vs. oe-RSV-NS1 group. (G) Western blot analysis of
16 relative expression levels of ATG5, LC3II/I, TOM20, VDAC1, and COXIV in Beas-2B cells
17 overexpressing TUFM after 10 μ M vitamin D intervention. n = 3. $^*P < 0.05$ vs. oe-RSV-NS1 group;
18 $^{\#}P < 0.05$ vs. oe-RSV-NS1+VitD+oe-NC group.

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