

## Supporting Information

Hariri, *et al.* “Plant Flavones Enhance Antimicrobial Activity of Respiratory Epithelial Cell Secretions Against *Pseudomonas aeruginosa*”

### S1 File. Data values from the main text.

**OD<sub>600</sub> data values from Figure 1: (B)** The  $\Delta OD_{600}$  with PAO1 was  $0.60 \pm 0.01$  (control),  $0.62 \pm 0.03$  (100  $\mu M$  apigenin; *n.s.* vs. control),  $0.51 \pm 0.02$  (100  $\mu M$  chrysin;  $p < 0.05$  vs. control),  $0.42 \pm 0.01$  (300  $\mu M$  chrysin;  $p < 0.05$  vs. control),  $0.43 \pm 0.02$  (100  $\mu M$  wogonin;  $p < 0.05$  vs. control),  $0.44 \pm 0.02$  (flavone mix; 100  $\mu M$  each, chrysin, wogonin and apigenin;  $p < 0.05$  vs. control),  $-0.01 \pm 0.006$  (penicillin + streptomycin;  $p < 0.01$  vs. control),  $-0.15 \pm 0.02$  (penicillin, streptomycin + flavone mix;  $p < 0.01$  vs. control;  $p < 0.01$  vs. pen/strep alone). The change in  $OD_{600}$  with ATCC 27853 was  $0.36 \pm 0.02$  (control),  $0.33 \pm 0.03$  (100  $\mu M$  apigenin; *n.s.* vs. control),  $0.28 \pm 0.06$  (100  $\mu M$  chrysin;  $p < 0.05$  vs. control),  $0.06 \pm 0.08$  (300  $\mu M$  chrysin;  $p < 0.01$  vs. control),  $0.15 \pm 0.02$  (100  $\mu M$  wogonin;  $p < 0.01$  vs. control),  $0.06 \pm 0.02$  (flavone mix;  $p < 0.01$  vs. control),  $-0.03 \pm 0.006$  (penicillin + streptomycin;  $p < 0.01$  vs. control),  $-0.33 \pm 0.02$  (penicillin, streptomycin + flavone mix;  $p < 0.01$  vs. control;  $p < 0.01$  vs. pen/strep alone).

**OD<sub>600</sub> data values from Figure 2: (B)** Initial rates of  $OD_{600}$  decrease (in units/min) over 30 min for PAO1 ( $n = 3-6$  experiments for each condition) were  $0.0014 \pm 0.0004$  (control),  $0.0023 \pm 0.00096$  (chrysin; *n.s.* vs. control),  $0.0056 \pm 0.001$  (apigenin;  $p < 0.05$  vs. control),  $0.0026 \pm 0.00097$  (wogonin; *n.s.* vs. control),  $0.0044 \pm 0.0014$  (flavone mix; *n.s.* vs. control),  $0.008 \pm 0.001$  (lysozyme;  $p < 0.05$  vs. control),  $0.0085 \pm 0.00090$  (chrysin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.0078 \pm 0.0012$  (apigenin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.0062 \pm 0.00092$  (wogonin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.016 \pm 0.0037$  (flavone mix + lysozyme;  $p < 0.05$  vs. control;  $p < 0.05$  vs. lysozyme only). Initial rates of  $OD_{600}$  decrease for ATCC27853 were  $0.00074 \pm 0.00043$  (control),  $0.0019 \pm 0.00086$  (chrysin *n.s.* vs. control),  $0.0028 \pm 0.00058$  (apigenin *n.s.* vs. control),  $0.0017 \pm 0.00089$  (wogonin; *n.s.* vs. control),  $0.0066 \pm 0.0013$  (flavone mix;  $p < 0.05$  vs. control),  $0.0073 \pm 0.0021$  (lysozyme;  $p < 0.05$  vs. control),  $0.0071 \pm 0.00068$  (chrysin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.0080 \pm 0.0014$  (apigenin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.0084 \pm 0.0014$  (wogonin + lysozyme;  $p < 0.05$  vs. control; *n.s.* vs. lysozyme only),  $0.013 \pm 0.003$  (flavone mix + lysozyme;  $p < 0.05$  vs. control;  $p < 0.05$  vs. lysozyme only). **(C)** The  $\Delta OD_{600}$  after 2 hrs. for PAO1 was  $0.22 \pm 0.04$  (control),  $0.012 \pm 0.05$  (chrysin;  $p < 0.05$

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vs. control),  $0.011 \pm 0.050$  (apigenin;  $p < 0.05$  vs. control),  $0.037 \pm 0.07$  (wogonin; *n.s.* vs. control),  $-0.12 \pm 0.08$  (flavone mix;  $p < 0.01$  vs. control),  $-0.22 \pm 0.02$  (lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. flavone mix alone),  $-0.28 \pm 0.03$  (chrysin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.26 \pm 0.02$  (apigenin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.26 \pm 0.02$  (wogonin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.41 \pm 0.03$  (flavone mix + lysozyme;  $p < 0.01$  vs. control;  $p < 0.05$  vs. lysozyme only). The  $\Delta OD_{600}$  after 2 hrs. for ATCC 27853 was  $0.17 \pm 0.006$  (control),  $-0.07 \pm 0.03$  (chrysin;  $p < 0.01$  vs. control),  $-0.08 \pm 0.01$  (apigenin;  $p < 0.01$  vs. control),  $-0.09 \pm 0.04$  (wogonin;  $p < 0.01$  vs. control),  $-0.18 \pm 0.04$  (flavone mix;  $p < 0.01$  vs. control),  $-0.23 \pm 0.05$  (lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. flavone mix alone),  $-0.28 \pm 0.03$  (chrysin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.26 \pm 0.03$  (apigenin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.30 \pm 0.2$  (wogonin + lysozyme;  $p < 0.01$  vs. control; *n.s.* vs. lysozyme only),  $-0.42 \pm 0.02$  (flavone mix + lysozyme;  $p < 0.01$  vs. control;  $p < 0.01$  vs. lysozyme only).

**Fluorescence values from Figure 3:** Relative fluorescence values from GFP in supernatant ( $n = 6-11$  experiments per condition) were  $1 \pm 0.07$  (control),  $11.64 \pm 1.7$  (lysozyme alone),  $27.53 \pm 2.7$  (lysozyme + flavone mix),  $5.2 \pm 0.6$  (flavone mix alone),  $1.7 \pm 0.1$  (apigenin alone),  $1.5 \pm 0.09$  (chrysin alone),  $16.6 \pm 2.6$  (lysozyme + apigenin),  $13.7 \pm 2.4$  (lysozyme + chrysin).

**Fluorescence values from Figure 4:** Raw NPN fluorescence values for PAO1 were ( $n = 4-10$  experiments per condition) were  $5889 \pm 124$  (control),  $20301 \pm 413$  (lysozyme),  $29281 \pm 1217$  (lysozyme + flavone mix),  $21929 \pm 1158$  (lysozyme + apigenin),  $22347 \pm 1314$  (lysozyme + chrysin),  $22347 \pm 595$  (lysozyme + wogonin),  $6111 \pm 247$  (apigenin only),  $5988 \pm 146$  (chrysin only),  $13222$  (flavone mix only). Raw fluorescence values for ATCC 27853 ( $n = 4-10$  experiments per condition) were  $7360 \pm 96$  (control),  $22725 \pm 760$  (lysozyme),  $31673 \pm 689$  (lysozyme + flavone mix),  $23713 \pm 1183$  (lysozyme + apigenin),  $24309 \pm 1475$  (lysozyme + chrysin),  $25353 \pm 2486$  (lysozyme + wogonin),  $7469 \pm 179$  (apigenin only),  $7406 \pm 122$  (chrysin only),  $15347$  (flavone mix only). (B)

**CFU values from Figure 5: (A)** CFUs recovered ( $n = 5-7$  experiments for each condition) were  $19857 \pm 1280$  (PBS),  $14400 \pm 2315$  (PBS + flavones; *n.s.* vs. PBS alone),  $4 \pm 2$  (50  $\mu\text{g/ml}$  gentamycin;  $p < 0.01$  vs control),  $1 \pm 1$  (50  $\mu\text{g/ml}$  gentamycin + flavones;  $p < 0.01$  vs control; *n.s.* vs gentamycin

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alone),  $1 \pm 1$  (50% Calu-3 ASL;  $p < 0.01$  vs control),  $1 \pm 1$  (50% Calu-3 ASL + flavones;  $p < 0.01$  vs control; *n.s.* vs 50% ASL alone),  $3 \pm 2$  (25% Calu-3 ASL;  $p < 0.01$  vs control),  $2 \pm 1$  (25% Calu-3 ASL + flavones;  $p < 0.01$  vs control; *n.s.* vs 25% ASL alone),  $2030 \pm 998$  (12.5% Calu-3 ASL;  $p < 0.05$  vs. control),  $42 \pm 20$  (12.5% Calu-3 ASL + flavones;  $p < 0.05$  vs 12.5% ASL alone;  $p < 0.01$  vs control),  $18400 \pm 2337$  (6.25% Calu-3 ASL; *n.s.* vs. control),  $2800 \pm 1362$  (6.25% Calu-3 ASL + flavones;  $p < 0.05$  vs control;  $p < 0.01$  vs 6.25% ASL alone). **(B)** CFUs recovered ( $n = 4$  experiments for each condition) were  $23250 \pm 4029$  (PBS),  $17250 \pm 2562$  (PBS + flavones; *n.s.* vs. PBS alone),  $3 \pm 3$  (50% ASL),  $5 \pm 4$  (50% ASL + flavones; *n.s.* vs. 50% ASL alone),  $4050 \pm 2244$  (25% ASL),  $88 \pm 59$  (25% ASL + flavones;  $p < 0.01$  vs. 25% ASL alone),  $26000 \pm 3808$  (12.5% ASL), and  $15500 \pm 4173$  (12.5% ASL + flavones;  $p < 0.05$  vs. 12.5% ASL alone).