Table S1. Anti-biofilm activity of SMoPs.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Substance** | **Group** | **Pathogen** | **Concentration** | **Mechanism** | **Ref.** |
| Eugenol | phenylpropanoids | *P. aeruginosa* | 150-300 μg/ml | inhibition and reducing pre-formed biofilms;  down-regulation the expression of biofilm-associated genes; inhibition of QS | [162, 125] |
| *L. monocytogenes* | 2,5mM | interruption in cell-cell communication | [163-164] |
| *K. pneumoniae* | 63,5 μg/ml | [132, 124] |
| *MRSA* |  | [137] |
| Cinnamaldehyde | *L. monocytogenes* | 0,75 mM | disturbance of cellular integrity | [163] |
| *S. epidermidis* | 125 μg/ml | [165-166] |
| Gallic acid | benzoic acid derivatives | *P.aeruginosa* | 200 μg/ml | inhibition of QS | [167] |
| *P. aeruginosa* | 25 μg/ml | [129] |
| Ellagic acid | *E. coli, S. aureus* | 15- 40 μg/ml | inhibition of QS | [168] |
| 1,2,3,4,6-penta-O-galloyl-β-D-glucopyranose | tannins | *S. aureus* | 4 μM | inhibition of the initial attachment to solid surface; inhibition of the synthesis of polysaccharide intercellular adhesin | [139] |
| Punicalagin | *S. typhimurium* | 15.6 μg/ml | down-regulation of QS and motility-related genes | [169] |
| Resveratrol | stilbenoids | *P.aeruginosa, E.coli* | 50 μg/ml | inhibition of QS | [128] |
| *S. aureus* | 100 μg/ml | [138] |
| Quercetin | flavonoids | *E. coli, S. aureus* | 1 μg/ml | reduction of the expression of QS genes | [124] |
| Curcumin | diarylheptanoids | *P.aeruginosa* | 1 μg/ml |  | [170, 131] |
| *S. epidermidis,  E. coli,  Proteus mirabilis,  Serratia marcescens,  K. pneumoniae,  Enterococcus faecalis,  S. mutans* | 25-625 μg/ml | [134, 165, 171-173] |
| Thymol | terpenoids | *Listeria monocytogenes* | 5 mM | down-regulation of QS genes | [163] |
| *Listeria monocytogenes* | 750 μg/ml | [174] |
| *P. aeruginosa* |  | [130] |
| *S. typhimurium and S. enteritidis* | 312 μg/ml | inhibition and reducing pre-formed biofilms; disturbance of cellular integrity | [175] |
| Carvacrol | *L. monocytogenes* | 0.65-10 mM | down-regulation of QS genes | [163] |
| *P. aeruginosa* |  | [130] |
| *P. aeruginosa* |  | [176] |
| *S. typhimurium and S. enteritidis* | 156 μg/ml | inhibition and reducing pre-formed biofilms; disturbance of cellular integrity | [175] |
| *S. enterica* | 0.33 mg/ml | [177] |
| Betulinic acid | *P. aeruginosa* | 125 μg/ml | inhibition of QS | [127] |
| Ursolic acid | *P. aeruginosa, E. coli* | 10 μg/ml |  | [178-179] |
| linalool | *S. typhimurium* | 0.166 mg/ml | anti-adhesion activity | [180] |
| Allicin | sulfur-containing  phytochemicals | *S. epidermidis* | 128 μg/ml | inhibition of QS | [181-182] |
| *P. aeruginosa* | 4 mg/ml | [126] |
| Aesculetin | coumarin derivatives | *S. aureus* | 128 μg/ml |  | [183] |
| *E. coli* | 50 μg/ml | [124] |
| Umbelliferone | *E. coli* | 50 μg/ml | [124, 184] |
| Chrysophanol, emodin and shikoninall | quinones | *P. aeruginosa* | 20 μM | [185] |
| Berberine | alkaloids | *K. pneumoniae* | 63.5 μg/ml | inhibition of QS | [134] |
| *S. epidermidis* | 30-45 μg/ml | [140] |
| *S. epidermidis* | 125 μg/ml | [136] |
| Chelerythrine and sanguinarine | *S. aureus* | 15-25 μM |  | [186] |
| Chelerythrine | *S. aureus* | 4 μg/ml | [135] |
| Chelerythrine and sanguinarine | *S. epidermidis* | 5- 9 μM | [186] |
| Indole | *K. pneumoniae* | 15.6 μg/ml | [134] |
| *K. pneumoniae* | > 255 μM | [133] |
| p-Coumaric acid | cinnamic acid derivative | *S. typhimurium* | 0.104 mg/ml | anti-adhesion activity | [180] |

Table S2. Synergistic interactions of some SMoPs with antibiotics.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pathogen** | **Drug** | **MIC, μg/ml** | **+ SMoP** | **MICs reduction** | **Ref.** |
| *E. coli; S. aureus; P. aeruginosa* | Chloramphenicol | 128; 8; 1024 | + essential oils from *Dittrichia graveolens (L.) Greuter* | 10-fold | [187] |
| *S. aureus; P. aeruginosa* | Imipenem | 4 | + *Ocimum asilicum* essential oil | 32-fold | [188] |
| *E. feacium* | Tetracycline | 256 | + carvacrol | 4-fold | [189] |
| Tetracycline | 256 | + thymol | 4-fold | [189] |
| *E. coli (MDR)* | Tetracycline | 200 | + chanoclavine | 8-to-16-fold | [190] |
| Tetracycline | 200 | + lysergol | 4-fold | [190] |
| Tetracycline | 200 | + piperine | 4-to-8-fold | [190] |
| *S. aureus* | Norfloxacin | 156.3 | + gallic acid | 3-fold | [191] |
| Gentamicin | 49.21 | + gallic acid | 20-fold | [191] |
| Rifampicin | > 256 | + kaempferol or quercetin | 4-fold | [192] |
| Ciprofloxacin | 6.25 | + kaempferol rhamnoside | 4-fold | [193] |
| Tetracycline and norfloxacin | 64 | + 6-geranyl coumarin | 2-fold | [194] |
| Tetracycline | 128 | + eugenol | 4-fold | [189] |
| Tetracycline | 128 | + carvacrol | 2-fold | [189] |
| Tetracycline | 4 | + carvacrol or thymol | 2-to-8-fold | [189] |
| Ciprofloxacin | 0.10 | + reserpine | 4-fold | [193] |
| *MRSA* | Norfloxacin | >100 | + bergamottin epoxide | 20-fold | [195] |
| Gentamicin | 32 | + piperine | 4-fold | [62] |
| *MDR clinical isolates of S. aureus* | Ciprofloxacin and tetracycline | 10-80 | + galbanic acid | 4-to-16- fold | [196] |
| *S. epidermidis* | Amoxicillin | 16 | + quercetin | 4-fold reduction | [197] |

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