Materials and Methods

M. aeruginosa cultivation and chemicals

M. aeruginosa FACHB-915 was pre-cultured in sterile BG11 medium at 25 ± 1°C and a 12 h diurnal-nocturnal alternation with cool white lights at 25 μmol photons/m^2·s. 20 days pre-cultivation, *M. aeruginosa* cells reaching exponential growth phase were collected by centrifugation (4000 g, 4°C, 10 min), and used as inoculums for downstream experiments.

Kaempferol and luteolin were purchased from Energy Chemical, Inc. (Shanghai, China). Individual stock solution were prepared in dimethyl sulfoxide (DMSO) and stored at 4 before use. Other chemicals used in this study were analytical grade except as d by kit.

Experimental setup

All Erlenmeyer f were autoclaved at 121°C for 20 min before experimental use. For each exposure test group, individual 250 mL f containing 100 mL sterile BG11 medium was spiked with certain dose of kaempferol or luteolin at test beginning without any replenishment along test period. g concentrations of kaempferol or luteolin were 0.5, 1, 4, 16 or 32 mg/L in each 100 mL medium, with DMSO amount below 0.1% (*v*/*v*

the stimulated APC on day 4 and enhanced PE content along the test probably as adaptive strategy to 32 mg/L luteolin stress, the inhibited

was generally correlated to SOD/CAT activities at each kaempferol or luteolin level: i) Exposed to 16~32 mg/L kaempferol and 32 mg/L luteolin, ꝺ d g d MDA content on each day indicated *M. aeruginosa* cell damage, causing inhibited *M. aeruginosa* growth. Noteworthy, most ꝺ d SOD and CAT activity stimulation on day 8 could subsequently alleviate oxidative damage on day 14, according to decreasing MDA content from day 8 to 14 (down to 0.09, 0.13 and 0.12 nmol/10^6 cells, respectively) (Figure 5). To some extent, such relatively-alleviated oxidative stress on day 14 further inactivated SOD/CAT, leading to lower SOD/CAT activities on day 14 (SOD down to 0.80, 0.98 and 1.49 U/10^6 cells, CAT down to 5.67, 4.88, 3.38 U/10^6 cells) (Figures 5A-5D).

ii) At 16 mg/L luteolin, ꝺ d g ꝺ h g SOD and CAT activities were absent on day 4 but both stim ę" ɔ ɜu r ƙᵀ]ɪent on]lĮ

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