

EXPERIMENTAL CONDITIONS

In all agar plate experiments, Agar powder for bacteriology sold by VWR International (ID number 20767.298) was used.

Production of conidia

To produce asexual spores, the malt extract - mycological pepton sporulation agar medium shown under “GROWTH MEDIA” at “Basic media: Malt medium” was used unless otherwise indicated (1). In the case of the osmophilic fungus *Aspergillus glaucus*, the sporulation medium was also supplemented with 1.0 M NaCl. The production of conidia was typically carried out at 25 °C in the dark for 6 days (1). In selected experiments, *Aspergillus fumigatus* and *Aspergillus nidulans* were also sporulated on the malt extract - mycological pepton sporulation agar medium at 37 °C and also on nitrate minimal medium agar plates presented under “GROWTH MEDIA” at “Basic media: Nitrate minimal medium (NMM)” at 37 °C (1, 2).

Microbial growth and stress sensitivity assays

Standard protocols elaborated before for *A. nidulans* were adapted (1, 3-5). All assays were performed on NMM agar plates {shown under “GROWTH MEDIA” at “Basic media: Nitrate minimal medium (NMM)”}, which were incubated at 25 (5 or 10 d) or 37 °C (5 d) in the dark (1). The NMM agar plates were supplemented with stress-initiating agents including H₂O₂ (oxidative stress; VWR BDH Prolabo, Debrecen, Hungary; ID number 23622.298), menadione sodium bisulfite (MSB; oxidative stress; Sigma-Aldrich Ltd., Budapest, Hungary; ID number M5750), NaCl (ionic osmotic stress, VWR BDH Prolabo, Debrecen, Hungary; ID number 27810.295), sorbitol (non-ionic osmotic stress; Sigma Aldrich Ltd., Budapest, Hungary; ID number S1876), Congo Red (cell wall integrity stress; Sigma Aldrich Ltd., Budapest, Hungary; ID number C6277) or CdCl₂ (heavy metal stress; Sigma Aldrich Ltd., Budapest, Hungary; ID number 20899) as required. We normally prepared stock solutions of the stress-generating agents H₂O₂, MSB, CdCl₂ and Congo Red, which were added in pre-calculated (maximum 2 ml) volumes to 100 ml aliquots of the NMM culture media kept at 55 °C in a water bath, *i.e.* just above the rigidification temperature of agar. Pre-calculated quantities of NaCl and sorbitol were always added to the NMM agar medium at room temperature prior to sterilization.

NMM agar plates were always point-inoculated by 10^5 freshly-grown conidia washed and suspended in 5 μ l 0.9 % NaCl, 0.01 % Tween 80 (1, 5). After completing the physiological experiments, colonies were photographed, and fungal growth was characterized by colony diameters (1, 5) or by scoring them by eye on a 0-10 scale (1). Stress sensitivities were quantified by % decreases in the colony diameters in comparison to controls or by decreases in the growth scores presented on a 0-1 scale (1).

References

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