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The High Osmolarity Glycerol Mitogen-Activated Protein Kinase regulates glucose catabolite repression in filamentous fungi

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Growth of the filamentous fungus *Aspergillus nidulans* forming germ tubes and lateral branches during initial stages.

DIC (differential interference contrast) microscopy showing the radial growth of *Aspergillus nidulans* branches during initial stages of development on the surface of the medium. Image edited using Adobe Photoshop. The filamentous fungus *A. nidulans* needs to coordinate complex regulatory networks and the cross-talk between these pathways to appropriately sense and respond to environmental cues, such as carbon source availability. Subsequently, intracellular signalling events are activated which are coordinated by different protein kinase pathways to regulate carbon source metabolism. Carbon catabolite repression ensures utilisation of the energetically most favourable carbon source glucose whilst repressing the utilisation of alternative carbon sources. Image credit: Leandro José de Assis.