

# Quantitative Analysis of *Aspergillus nidulans* Growth Rate using Live Microscopy and Open-Source Software

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jove.com/video/62778

## Materials

| Name                                                                           | Company            | Catalog Number | Comments                                                                                                                |
|--------------------------------------------------------------------------------|--------------------|----------------|-------------------------------------------------------------------------------------------------------------------------|
| μ-Slide 8 Well                                                                 | Ibidi              | 80826          | Imaging slides                                                                                                          |
| 4-Aminobenzoic acid                                                            | Merck              | A9878          |                                                                                                                         |
| azhΔΔ ngnΔΔ                                                                    |                    |                | Genotype: zhΔΔ::pyrGAf; ngnΔΔ::pyrGAf; pyroA4 pantoB100 / References:Laboratory collection, Athanasopoulos et al., 2013 |
| Bacto Casamino Acids                                                           | Gibco              | 223030         |                                                                                                                         |
| Biotin                                                                         | Merck              | B4639          |                                                                                                                         |
| Chloroform                                                                     | Merck              | 67-66-3        |                                                                                                                         |
| Copper(II) sulfate pentahydrate                                                | Merck              | C8027          |                                                                                                                         |
| Glucose                                                                        | Merck              | G8270          |                                                                                                                         |
| GraphPad Prism 8.0                                                             | GraphPad Software  |                | Statistical Software                                                                                                    |
| ImageJ                                                                         | NIH                |                | Image processing and analysis software                                                                                  |
| Inoculating Loop                                                               | Merck              | I8263-500EA    |                                                                                                                         |
| Iron(III) phosphate                                                            | Merck              | 1.03935        |                                                                                                                         |
| Leica Application Suite X                                                      | Leica Microsystems |                | Microscope software                                                                                                     |
| Magnesium sulfate heptahydrate                                                 | Merck              | 63138          |                                                                                                                         |
| Manganese(II) sulfate monohydrate                                              | Merck              | M7899          |                                                                                                                         |
| Microscope Leica TCS SP8                                                       | Leica Microsystems |                |                                                                                                                         |
| Nicotinamide (Niacinamide)                                                     | Supelco            | 47865-U        |                                                                                                                         |
| Peptone                                                                        | Millipore          | 68971          |                                                                                                                         |
| Petri Dishes for Microbiology Culture                                          | KISKER             | G090           |                                                                                                                         |
| Potassium chloride                                                             | Merck              | P4504          |                                                                                                                         |
| Potassium phosphate monobasic                                                  | Merck              | P5655          |                                                                                                                         |
| Pyridoxine hydrochloride                                                       | Merck              | P6280          |                                                                                                                         |
| Quali - Microcentrifuge Tubes, 1,7 mL, DNase-, RNase and pyrogen free, sterile | KISKER             | G052-S         |                                                                                                                         |

|                                                             |               |           |                                                                                                                                                      |
|-------------------------------------------------------------|---------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quali - Microcentrifuge Tubes, 2.0 mL, sterile              | KISKER        | G053-S    |                                                                                                                                                      |
| Quali - Standard Tips, Bevelled, 100-1000 µL                | KISKER        | VL004G    |                                                                                                                                                      |
| Quali - Standard Tips, Bevelled, 1-200 µL                   | KISKER        | VL700G    |                                                                                                                                                      |
| Quali Microvolume Tips, DNase-, RNase free, 0,1-10 µL/clear | KISKER        | GC.TIPS.B |                                                                                                                                                      |
| Riboflavin (B2)                                             | Supelco       | 47861     |                                                                                                                                                      |
| Scalpel blades NO. 11                                       | OdontoMed2011 | S2771     |                                                                                                                                                      |
| Sodium chloride                                             | Merck         | S7653     |                                                                                                                                                      |
| Sodium hydroxide                                            | Merck         | S8045     |                                                                                                                                                      |
| Sodium tetraborate decahydrate                              | Merck         | S9640     |                                                                                                                                                      |
| VS151 (PilA-GFP and H1-mRFP)                                |               |           | Genotype: pyrG89; pilA::sgfp::AfpyrG + argB2 nkuAΔ::argB+ pyroA4 hhoA::mrfp::Afribo+ riboB2 / References:Laboratory collection, Biratsi et al., 2021 |
| WT                                                          |               |           | Genotype: nkuAΔ::argB; pyrG89; pyroA4;pyrG89 / References: TN02A3 -FGSC A1149                                                                        |
| Yeast Extract                                               | Millipore     | 70161     |                                                                                                                                                      |
| ZnSO <sub>4</sub>                                           |               |           |                                                                                                                                                      |