

# UvA-DARE (Digital Academic Repository)

## Intracellular pH Response to Weak Acid Stress in Individual Vegetative Bacillus subtilis Cells

Pandey, R.; Vischer, N.O.E.; Smelt, J.P.P.M.; van Beilen, J.W.A.; Ter Beek, A.; De Vos, W.H.; Brul, S.; Manders, E.M.M. DOI 10.1128/AEM.02063-16 **Publication date** 

2016 **Document Version** Other version Published in Applied and Environmental Microbiology

### Link to publication

## Citation for published version (APA):

Pandey, R., Vischer, N. O. E., Smelt, J. P. P. M., van Beilen, J. W. A., Ter Beek, A., De Vos, W. H., Brul, S., & Manders, E. M. M. (2016). Intracellular pH Response to Weak Acid Stress in Individual Vegetative Bacillus subtilis Cells. Applied and Environmental Microbiology, 82(21), 6463-6471. https://doi.org/10.1128/AEM.02063-16

#### **General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

#### **Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible. UvA-DARE is a service provided by the library of the University of Amsterdam (https://dare.uva.nl)

#### **1** Supplementary Data

Video S1. Growth of *B. subtilis* PptsG-IpHluorin vegetative cells in defined minimal
(MOPS-buffered) medium (pH 6.4). The video shows three movies of respectively the
phase contrast image as well as the fluorescent emission images upon excitation at 390
nm and 470 nm.

6

Video S2. Growth of *B. subtilis* PptsG-IpHluorin vegetative cells in defined minimal
(MOPS-buffered) medium (pH 6.4) containing 3 mM potassium sorbate. The video
shows three movies of respectively the phase contrast image as well as the fluorescent
emission images upon excitation at 390 nm and 470 nm.

11

Video S3. Growth of *B. subtilis* PptsG-IpHluorin vegetative cells in defined minimal (MOPS-buffered) medium (pH 6.4) containing 25 mM potassium acetate. The video shows three movies of respectively the phase contrast image as well as the fluorescent emission images upon excitation at 390 nm and 470 nm.

16

**Table S1.** Results obtained from Multichannel-SporeTracker of growth of *B. subtilis* PptsG-IpHluorin vegetative cells at single cell level. Exponentially growing *B. subtilis* PptsG-IpHluorin vegetative cells were inoculated in defined minimal (MOPS-buffered) medium (pH 6.4) supplemented with (**A**) nothing (control), (**B**) 3 mM potassium sorbate and (**C**) 25 mM potassium acetate. Note that as was observed previously by van Beilen et al. (figure 1 b in ref. 4) pH<sub>i</sub> may start at values above 8 likely indicating a stalled metabolic activity of the (control) cells at the start of imaging. Growth-rate and average

1

- 24 colony pH<sub>i</sub> calculations with Multichannel-SporeTracker were always performed from
- 25 the time-point where discernible surface increase ,i.e. growth, had resumed. pH<sub>i</sub> values at
- 26 the start of our observations differed between both batches of *B. subtilis* cells shown.