Title: Characterization and regulation of AcrABR, a RND-type multidrug efflux system, in *Agrobacterium tumefaciens* C58

Authors: Puttamas Nuonming, Sasimaporn Khemthong, Thanittra Dokpikul, Rojana Sukchawalit, Skorn Mongkolsuk

PII: S0944-5013(18)30353-7
DOI: https://doi.org/10.1016/j.micres.2018.06.014
Reference: MICRES 26185

To appear in:

Received date: 26-3-2018
Revised date: 11-6-2018
Accepted date: 30-6-2018

Please cite this article as: Nuonming P, Khemthong S, Dokpikul T, Sukchawalit R, Mongkolsuk S, Characterization and regulation of AcrABR, a RND-type multidrug efflux system, in *Agrobacterium tumefaciens* C58, *Microbiological Research* (2018), https://doi.org/10.1016/j.micres.2018.06.014

Characterization and regulation of AcrABR, a RND-type multidrug efflux system, in *Agrobacterium tumefaciens* C58

Puttamas Nuonming [a], Sasimaporn Khemthong [a], Thanittra Dokpikul [b], Rojana Sukchawalit [a,c,d,*], Skorn Mongkolsuk [c,d,e]

[a] Applied Biological Sciences, Chulabhorn Graduate Institute, Lak Si, Bangkok 10210, Thailand

[b] Environmental Toxicology, Chulabhorn Graduate Institute, Lak Si, Bangkok 10210, Thailand

[c] Laboratory of Biotechnology, Chulabhorn Research Institute, Lak Si, Bangkok 10210, Thailand

[d] Center of Excellence on Environmental Health and Toxicology (EHT), Ministry of Education, Bangkok, Thailand

[e] Department of Biotechnology, Faculty of Science, Mahidol University, Bangkok 10400, Thailand

[*] Corresponding author

E-mail address: rojana@cri.or.th (R. Sukchawalit)

P.N., S.K. and T.D. contributed equally to this article.

ABSTRACT

Agrobacterium tumefaciens AcrR is the transcriptional repressor of the *acrABR* operon. The AcrAB efflux pump confers resistance to various toxic compounds, including antibiotics [ciprofloxacin (CIP), nalidixic acid (NAL), novobiocin (NOV) and tetracycline (TET)], a detergent [sodium dodecyl sulfate