

Resource Summary Report

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Transcriptomics

DOI:10.17504/protocols.io.bme9k3h6

Type: Protocol

Proper Citation

Andreea S 2020. Transcriptomics. protocols.io dx.doi.org/10.17504/protocols.io.bme9k3h6

Protocol Information

URL: <https://dx.doi.org/10.17504/protocols.io.bme9k3h6>

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Group: iGEM Groningen 2020

Summary: The potato root secretes root exudates, a mixture of organic molecules out of which solanine is found in the highest concentration (range of ug/ml). Also, solanine is a molecule specifically found in the root exudate of potato plants, which makes it a good candidate for a dependency molecule which will ensure that *Bacillus mycoides* doesn't escape the designated action area. Studies have shown that there are soil bacteria able to metabolize solanine as a carbon source. Unfortunately, we weren't able to find an already described solanine-inducing promoter. Because the natural habitat of *B. mycoides* is the potato rhizosphere, we have strong reasons to believe that if such a promoter may already be present in its genome. In order to find this promoter, we designed a CHIP-Seq experiment. *B. mycoides* will be incubated with a different range of solanine concentrations. The DNA will be extracted and the CHIP-Seq technique will be used to detect potential binding sites of solanine operators using monoclonal anti-solanine antibodies.

Affiliations: University of Groningen

Version: 1

Publication Date: 2020

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Record Creation Time: 20210329T220516+0000

Record Last Update: 20210329T220830+0000

Data and Source Information

Source: