

Surface Motility Regulation of *Sinorhizobium fredii* HH103 by Plant Flavonoids and the NodD1, TtsI, NolR, and MucR1 Symbiotic Bacterial Regulators

Cynthia Alías-Villegas¹, Francisco Fuentes-Romero², Virginia Cuéllar³, Pilar Navarro-Gómez², María J. Soto³, José-María Vinardell^{2,*}, Sebastián Acosta-Jurado^{1,*}

List of Supplementary Material

Figure S1. Growth curves of *S. fredii* HH103 Rif^R and different mutant derivatives in liquid MM in the presence (A) or absence (B) of genistein.

Figure S2. Analysis of genistein-induced surface motility on *S. fredii* HH103 additional mutants in the *nodD1*, *ttsI*, *nolR* and *mucR1* genes.

Table S1. *S. fredii* HH103 derivatives used in this study.

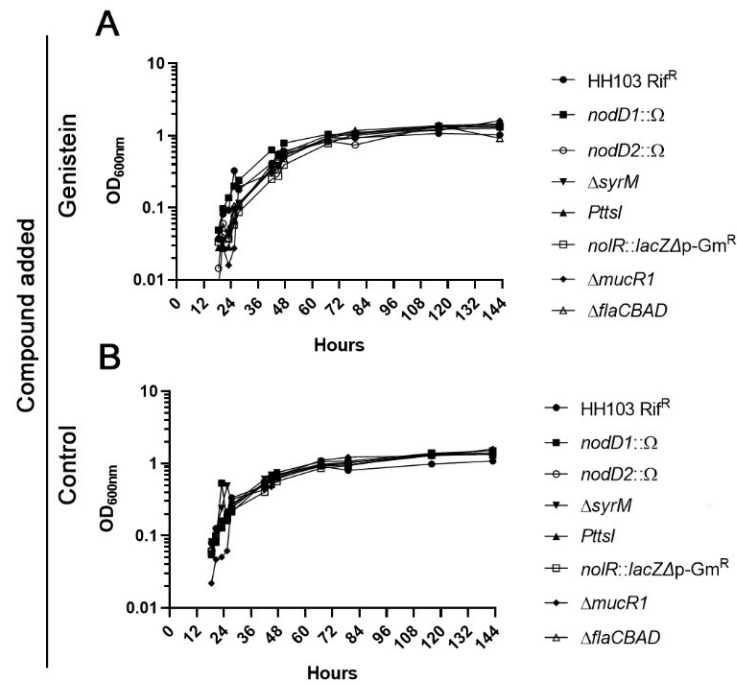


Figure S1. Growth curves of *S. fredii* HH103 Rif^R and different mutant derivatives in liquid MM in the presence (A) or absence (B) of genistein.

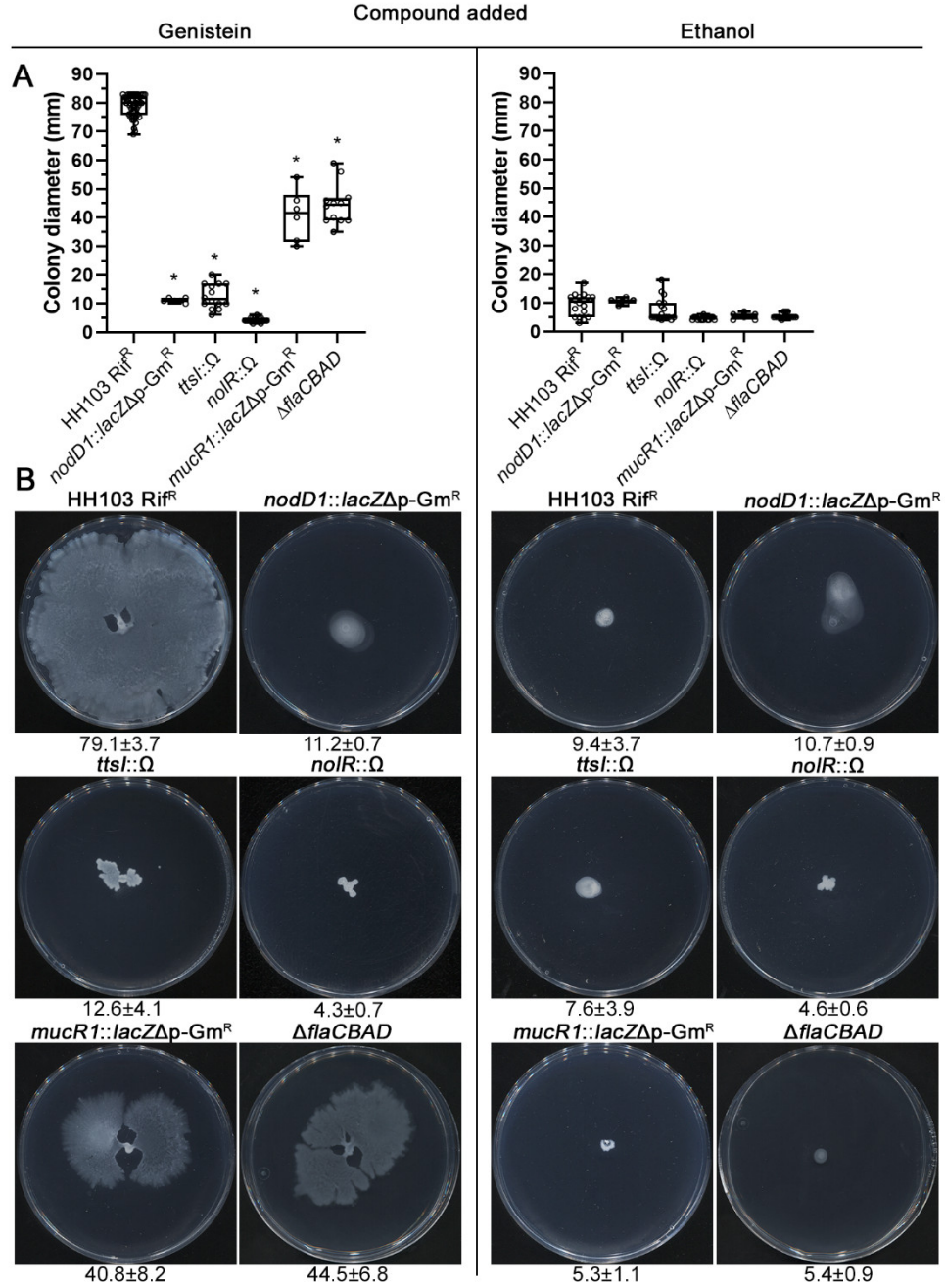


Figure S2. Analysis of genistein-induced surface motility on *S. fredii* HH103 additional mutants in the *nodD1*, *ttsI*, *nolR* and *mucR1* genes. The non-flagellated (*flaCBAD*) mutant was also included. Surface motility experiments were performed on minimal medium (MM) using 0.4% agarose as gelling agent at 72 hours. **A.** Box and whisker plots from at least three biological replicates performed with three technical replicates. Asterisks indicate significant differences with the corresponding control sample using the non-parametric test of Mann-Whitney, $\alpha = 1\%$. **B.** Representative pictures of the motilities exhibited in the presence of genistein by the different *S. fredii* HH103 mutants analysed. Values under images represent the average and standard deviation of surface migration (given in millimetres and determined as described in the text).

Table S1. *S. fredii* HH103 derivatives used in this study.

Derivative	Source or reference
HH103 Rif ^R Δ <i>flaCBAD</i>	[52]
HH103 Rif ^R Δ <i>gunA</i>	[62]
HH103 Rif ^R Δ <i>mucR1</i>	[19]
HH103 Rif ^R <i>mucR1::lacZ</i> Δ <i>p-Gm^R</i>	[19]
HH103 Rif ^R <i>nodA::Tn5-lacZ</i>	[54]
HH103 Rif ^R <i>nodD1::lacZ</i> Δ <i>p-Gm^R</i>	[55]
HH103 Rif ^R <i>nodD1::</i> Ω	[53]
HH103 Rif ^R <i>nodD2::</i> Ω	[20]
HH103 Rif ^R <i>nolR::lacZ</i> Δ <i>p-Gm^R</i>	[24]
HH103 Rif ^R <i>nolR::</i> Ω	[17]
HH103 Rif ^R <i>nopA::lacZ</i> Δ <i>p</i>	[17]
HH103 Rif ^R <i>nopC::lacZ</i> Δ <i>p</i>	[61]
HH103 Rif ^R <i>nopD::</i> Ω	[63]
HH103 Rif ^R <i>nopI::</i> Ω	[58]
HH103 Rif ^R <i>nopL::</i> Ω	[58]
HH103 Rif ^R Δ <i>nopM1-nopM2::lacZ</i> Δ <i>p-Gm^R</i>	[63]
HH103 Rif ^R <i>nopP::lacZ</i> Δ <i>p-Gm^R</i>	[59]
HH103 Rif ^R <i>nopT::</i> Ω	[63]
HH103 Rif ^R <i>rhcJ::</i> Ω	[56]
HH103 Str ^R <i>rhcJ::Tn5-lacZ</i>	[56]
HH103 Str ^R <i>rhcV::</i> Ω	[57]
HH103 Rif ^R Δ <i>syrM</i>	[21]
HH103 Rif ^R <i>pttI::</i> Ω	[17]
HH103 Rif ^R <i>tttI::</i> Ω	[17]