

Aug 31, 2018 Version 2

Generating Stable Transfection in Bodo saltans V.2

DOI

dx.doi.org/10.17504/protocols.io.s6cehaw

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DOI: dx.doi.org/10.17504/protocols.io.s6cehaw

Protocol Citation: Fatma Gomaa, Zuhong Li, Roberto Docampo, Peter Girguis, Virginia Edgcomb 2018. Generating Stable Transfection in Bodo saltans. **protocols.io** <https://dx.doi.org/10.17504/protocols.io.s6cehaw>

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Protocol status: Working

We use this protocol and it's working

Created: August 31, 2018

Last Modified: August 31, 2018

Protocol Integer ID: 15268

Abstract

- *B. saltans* cells were electroporated using a square-wave electroporator (Nepa21, Bulldog Bio, Inc.) using one poring pulse of 200 volts with a pulse duration of 25 ms and five transfer pulses of 60 volts with a pulse duration of 99 ms, with plasmid targeting the 18S region (18S-GFP). A schematic representation of the plasmid, the target locus and the expected site of integration into the *B. saltans* genome is shown in Figure 1.
- Electroporated cells were selected with 1 µg/ml of G418, added 24 hours after electroporation. Cells were washed and subcultured into fresh selection medium every 3-4 days. G418 resistant cells started to emerge 7-9 days post-electroporation.
- Cells were processed for genotyping analysis to confirm plasmid integration 3 weeks post-electroporation. DNA was extracted from pools of transfected and wild cells using the Qiagen DNeasy Blood & Tissue kit.
- PCR analyses were used to characterize the 18S-GFP tagging using 6 sets of PCR primers, as shown in Figure 1 C.
- Gel electrophoresis image (Figure 2) showing the amplified PCR products at the expected sizes.
- Amplified PCR#1 with primer sets Ribo_tag_forward & GFP reverse (800 bp)
- Amplified PCR #2 with primer sets Neo_forward & Ribo_tag_reverse (1000 bp)
- Amplified PCR #3 with primer sets TubR & IG forward (3 bands)
- Amplified PCR #4 with primer sets Tub_forward & IG reverse (3 bands)
- Amplified PCR #5 with primer sets Ribo_tag_forward & Ribo_tag_reverse (Wild (C) cells band at 350 bp, transfected cells S1 and S2 two bands, 350 bp and 2800 bp)

Figure 1: Schematic representation of the (A); the 18S- GFP plasmid; (B) Ribosomal operon in *B. saltans* genome (C); and the expected site of plasmid integration in *B. saltans* genome through homologous regions 1 and 2 (HR1, HR2).

Figure 2: Agarose gel electrophoresis image of the amplified PCR products for *B. saltans* cells transfected with 18S-GFP Cassette (S1 and S2) and the wild type cells (C). The primers sets and the expected product sizes are mentioned above in the text.

Figure 3: *B. saltans* cells transfected with 18S-GFP tagging cassette. On the left: a light microscopy image showing the *B. saltans* cells (around 4 cells at different level). On the right: GFP fluorescent signal detected in the transfected cell. Scale bar 10 μ m.

Attachments



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- 1 *saltans* cells were electroporated using a square-wave electroporator (Nepa21, Bulldog Bio, Inc.) using one poring pulse of 200 volts with a pulse duration of 25 ms and five transfer pulses of 60 volts with a pulse duration of 99 ms, with plasmid targeting the 18S region (18S-GFP). A schematic representation of the plasmid, the target locus and the expected site of integration into the *B. saltans* genome is shown in Figure 1.
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- 10 Amplified PCR #5 with primer sets Ribo_tag_forward & Ribo_tag_reverse (Wild (C) cells band at 350 bp, transfected cells S1 and S2 two bands, 350 bp and 2800 bp)
- 11 Figure 1: Schematic representation of the (A); the 18S- GFP plasmid; (B) Ribosomal operon in *B. saltans* genome (C); and the expected site of plasmid integration in *B.*


saltans genome through homologous regions 1 and 2 (HR1, HR2)

 figure 1.pdf

- 12 Figure 2: Agarose gel electrophoresis image of the amplified PCR products for *B. saltans* cells transfected with 18S-GFP Cassette (S1 and S2) and the wild type cells (C). The primers sets and the expected product sizes are mentioned above in the text.

 figure 2.pdf

- 13 Figure 3: *B. saltans* cells transfected with 18S-GFP tagging cassette. On the left: a light microscopy image showing the *B. saltans* cells (around 4 cells at different level). On the right: GFP fluorescent signal detected in the transfected cell. Scale bar 10 μ m.

 figure 3.pdf