

### Additional file 3.

*B. smithii*  $\Delta dhL$ - $\Delta sigF$  after counter-selection on plates containing 100  $\mu\text{g}/\text{mL}$  X-gal. Blue colonies still contain the plasmid-encoded *lacZ* gene and are smaller than the white colonies. White colonies have lost the plasmid and thus are not inhibited by the high concentration of the X-gal cleavage product.

