

H₂O₂ production

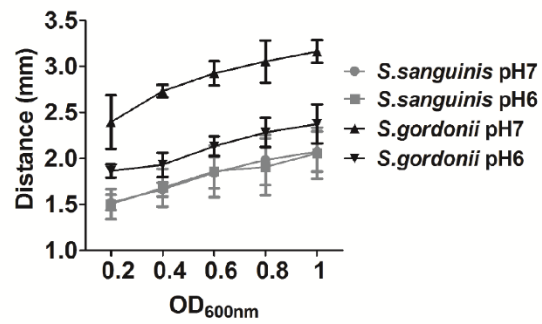


Fig. S1. pH dependent H₂O₂ productions of *S. sanguinis* SK36 and *S. gordonii* DL1 at different growth phase (OD₆₀₀ = 0.2, 0.4, 0.6, 0.8, 1.0). All data were obtained at least 3 separate times.

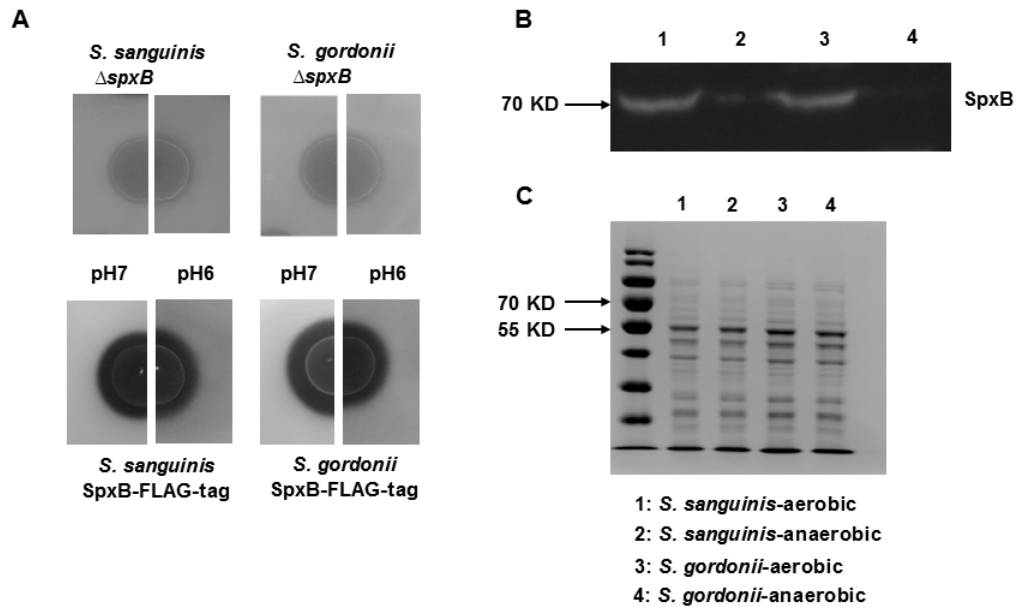


Fig. S2. A. Representative images of *S. sanguinis* SK36 and *S. gordonii* DL1 *spxB* mutant and FLAG tag strains on H₂O₂ indicator plates (pH7 and pH6). The *spxB* mutant strains did not produce H₂O₂ at pH7 and pH6. The FLAG-tag strains showed the same H₂O₂ phenotype as their respective wild types. B. Western blot analysis of SpxB protein abundance in SK36 and DL1 FLAG tag strains at aerobic and anaerobic conditions showing expected reduction of SpxB under anaerobic conditions as reported before (1). C. SDS PAGE gel with Coomassie blue staining shown as a control. The data indicate that the FLAG epitope did not interfere with H₂O₂ production. All the data were obtained at least 3 separate times.

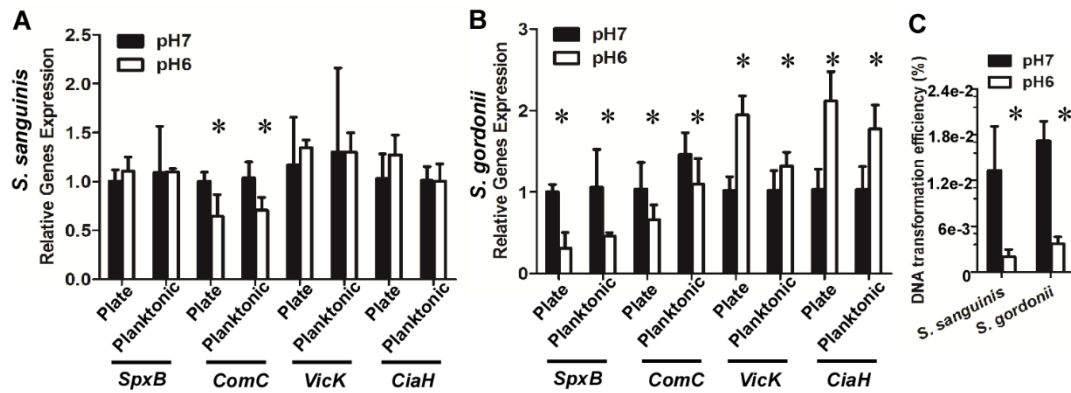


Fig. S3. Effect of environmental pH on two-component system (TCS) gene expression. A. TCS gene expression (*comC*, *vicK*, *ciaH*) in *S. sanguinis* SK36 at different pH values. Two growth conditions were selected, planktonic cells and cells grown as surface biofilms on BHI plates. B. TCS gene expression (*comC*, *vicK*, *ciaH*) in *S. gordonii* DL1. C. Transformation efficiency of *S. sanguinis* SK36 and *S. gordonii* DL1 grown at pH7 and pH6. The relative cDNA abundance with SK36 and DL1 at pH7 was set to 1. All data were obtained at least 3 separate times. Significant differences are indicated by * ($p < 0.05$).

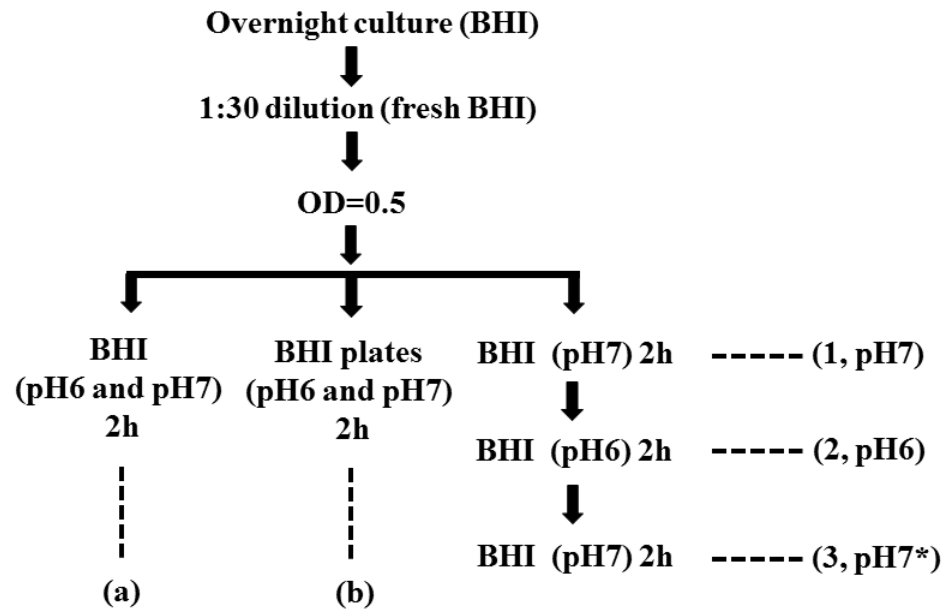


Fig. S4. Flow chart of this study.

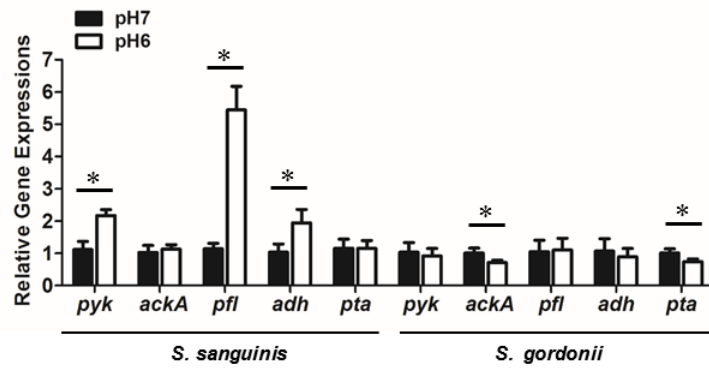


Fig. S5. Effect of environmental pH on *pyk*, *ackA*, *pfl*, *adh*, and *pta* gene expression in *S. sanguinis* and *S. gordonii*. The relative cDNA abundance with *S. sanguinis* and *S. gordonii* at pH7 was set to 1. All data were obtained at least 3 separate times. Significant differences are indicated by * ($p < 0.05$).

Table S1: Gene designations and chromosomal locus tags for selected gene used in expression analysis

Gene	<i>S. sanguinis</i>	<i>S. gordonii</i>
<i>pyk</i>	<i>pykF</i> ; SSA_0848; pyruvate kinase	<i>pyk</i> ; SGO_1339; pyruvate kinase
<i>ackA</i>	<i>ackA</i> ; SSA_0192; acetate kinase	<i>ackA</i> ; SGO_1916; acetate kinase
<i>pfl</i>	<i>pfl</i> ; SSA_0342; pyruvate formate-lyase	<i>pfl</i> ; SGO_0247; formate acetyltransferase
<i>adh</i>	<i>adh</i> ; SSA_1917; alcohol dehydrogenase	<i>adhA</i> ; SGO_0565; alcohol dehydrogenase
<i>pta</i>	<i>eutD</i> ; SSA_1207; phosphotransacetylase	<i>eutD</i> ; SGO_1219; phosphotransacetylase

Reference

1. Zheng L, Itzek A, Chen Z, Kreth J. 2011. Environmental influences on competitive hydrogen peroxide production in *Streptococcus gordonii*. *Appl Environ Microbiol* 77:4318-28. <http://doi.org/10.1128/AEM.00309-11>.