

**Supplementary Table 8. Genes involved in DNA repair and homologous recombination <sup>1</sup>**

	<b>ECH</b>	<b>APH</b>	<b>NSE</b>	<b>NRI</b>	<b>NHO</b>
<b>Direct Repair</b>					
Photolyase			NSE_RS03995 / NSE_RS04000 *	NRI_RS03480	
DNA ligase ligA	ECH0301	APH0138	NSE_RS02025	NRI_RS02070	NHE_RS02080
<b>AP Endonuclease</b>					
Xth	ECH0675	APH0505	NSE_RS01685	NRI_RS01735	NHE_RS01735
<b>Base Excision Repair Glycosylases (BER)</b>					
3mg	ECH0277				
Ung Family 4	ECH0074	APH1371	NSE_RS03805	NRI_RS03885	NHE_RS04000
Fpg	ECH0602	APH0411			
Nth	ECH0857	APH0897	NSE_RS00975	NRI_RS01015	NHE_RS00975
<b>Nucleotide Excision Repair (NER)</b>					
UvrA	ECH0785	APH0537			
UvrB		APH1367			
UvrC		APH0884			
UvrD	ECH0860	APH0903	NSE_RS01465		NHE_RS01505
UvrD family	ECH0387	APH0258	NSE_RS01885	NRI_RS01930	NHE_RS01930
<b>Transcription Coupling Repair (TCR)</b>					
Mfd	ECH0250	APH0107			
<b>Mismatch Repair (MMR)</b>					
MutL	ECH0884	APH0939	NSE_RS02475	NRI_RS02535	
MutS	ECH0824	APH0857	NSE_RS01390	NRI_RS01440	NHE_RS04185
<b>Homologous Recombination</b>					
<u>RecF Pathway</u>					
RecF	ECH0076	APH1409	NSE_RS00780	NRI_RS00820	NHE_RS00775
RecJ	ECH1115	APH1165	NSE_RS02895	NRI_RS02985	NHE_RS03020
RecO	ECH0536	APH0736	NSE_RS01855	NRI_RS01895	NHE_RS01900
RecR	ECH0843	APH0988	NSE_RS03670	NRI_RS03755	NHE_RS03835

<sup>1</sup> Abbreviations: ECH, *Ehrlichia chaffeensis* Arkansas; APH, *Anaplasma phagocytophilum* HZ; NSE, *N. sennetsu* Miyayama; NRI, *N. risticii* Illinois; NHO, *N. helminthoeca* Oregon.

\* Proteins are truncations due to an internal mutation.

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<u>Recombinase</u>					
RecA	ECH1109	APH1354	NSE_RS02170	NRI_RS02215	NHE_RS02250
<u>Holliday junction resolution</u>					
RuvA	ECH0320	APH0167	NSE_RS02360	NRI_RS02410	NHE_RS02455
RuvB	ECH0319	APH0166	NSE_RS02365	NRI_RS02415	NHE_RS02460
RuvC	ECH0028	APH0018	NSE_RS03885	NRI_RS03965	NHE_RS04085
RecG	ECH0062	APH1298	NSE_RS02795	NRI_RS02885	NHE_RS02915
<u>Other recombination</u>					
RadA	ECH0305				
<b>Other</b>					
RadC	ECH0363	APH0242	NSE_RS00915	NRI_RS04065/ NRI_RS04060*	NHE_RS00910*
XseL	ECH0056	APH1322			
XseS	ECH0214	APH0079			
Hu		APH0784	NSE_RS02595	NRI_RS02665	NHE_RS02715
RmuC	ECH0577	APH0428	NSE_RS00485	NRI_RS00530	NHE_RS00480

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