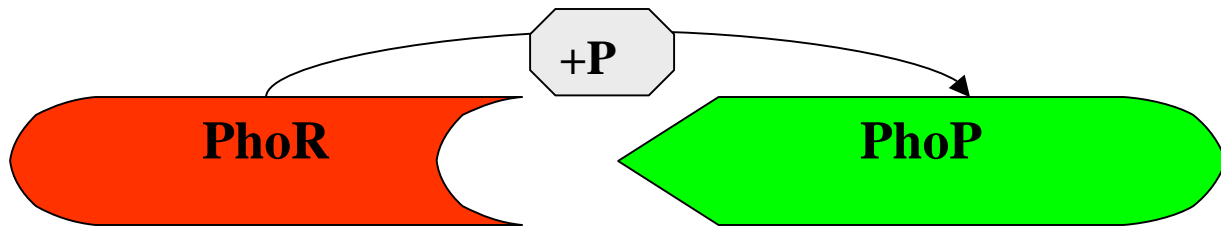


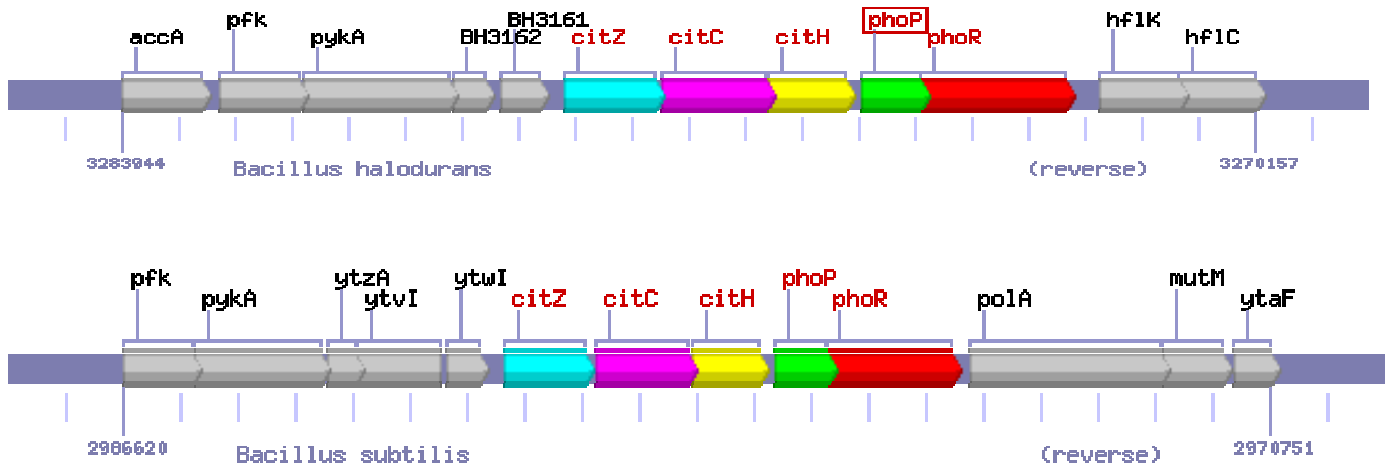
Figure 2. Domain Composition of PhoR/PhoP Two-Component Histidine Kinases in *B. halodurans* and Related Conserved Chromosomal Gene Cluster.



Location Domain Name
 164-233 HAMP domain
 243-304 PAS domain
 350-417 Histidine Kinase A phospho acceptor domain

Location Domain Name
 3-122 Response regulator receiver domain
 157-229 Transcriptional Regulatory protein, C-terminal

Conserved chromosomal gene cluster:



This example represents the utility of analysis offered by Sentra. As it was shown by the domain analysis PhoR represents the transmitter component of sensory transduction histidine kinase. It consists of the following domains:

PAS domain that is known to sense the signals reflecting changes in redox potential in the environment [11]; HAMP domain that was proved to negatively regulate the phosphorylation and methylation of homodimeric receptors, such as *E. coli* EnvZ thus inhibiting histidine kinase signaling process [12], and “classical” histidine kinase transmitter domain. Described domain composition may signify involvement of PhoR complex regulatory cascade related to monitoring environmental signals.