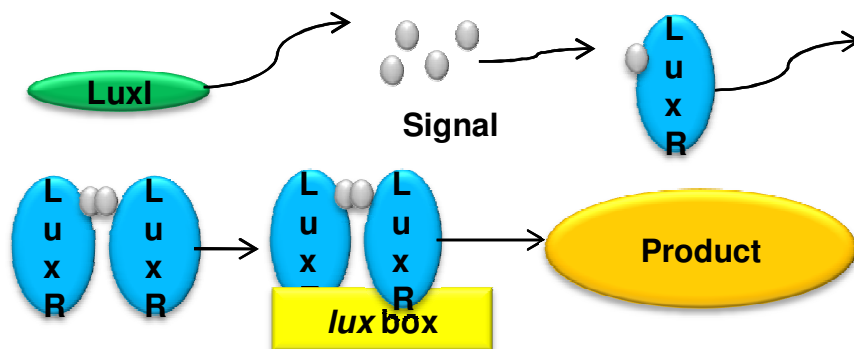


Directed Evolution of the Quorum-Sensing Component LuxI

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Quorum-sensing is a cell density dependent system of gene regulation found in many bacterial species. The LuxI protein produces a signal which accumulates until the LuxR protein binds it and activates target genes.

Our lab works towards the understanding and engineering of these components in order to apply them to synthetic biology and the industrial production of recombinant proteins.

We engineer the proteins through random mutagenesis. *E. coli* express the library of randomly mutated genes and then are screened or selected for desired activity. Our library of mutants with varying specificities can help us better understand how they work and will be used to examine the benefits of using quorum-sensing-based circuits in industrial applications.

