

Sandbox T4SS

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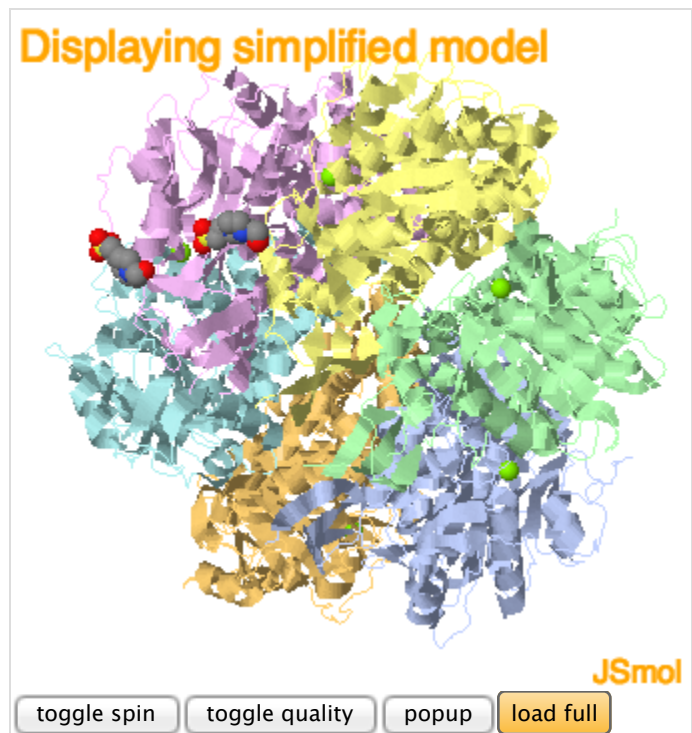
This page is setup for Jian to build her senior project for OU CHEM 4923

FUNCTIONS OF TYPE 4 SECRETION SYSTEMS

Bacterial type IV secretion systems move DNA and proteins out of a cell. This helps bacteria give and gain DNA quickly which greatly increases the variability and therefore survivability of the bacteria. Usually transfer of this DNA/proteins requires cell-to-cell contact, however one type of T4SS releases DNA from the extracellular milieu. ^[1]

GENERAL STRUCTURE FEATURES OF TYPE 4 SECRETION SYSTEMS

With different functions comes many variations on the structure of T4SS, however the most well understood set of structures were studied through the Gram-negative bacteria *A. tumefaciens*. It is called the



References

- ^{1.0} ^{1.1} ^{1.2} Wallden K, Rivera-Calzada A, Waksman G. Type IV secretion systems: versatility and diversity in function. *Cell Microbiol.* 2010 Sep 1;12(9):1203-12. doi: 10.1111/j.1462-5822.2010.01499.x. , Epub 2010 Jul 16. PMID:20642798 (<http://www.ncbi.nlm.nih.gov/pubmed/20642798>) doi:<http://dx.doi.org/10.1111/j.1462-5822.2010.01499.x>
- ^{2.0} ^{2.1} ^{2.2} Christie PJ, Whitaker N, Gonzalez-Rivera C. Mechanism and structure of the bacterial type IV secretion systems. *Biochim Biophys Acta.* 2014 Aug;1843(8):1578-91. doi: 10.1016/j.bbamcr.2013.12.019. Epub 2014 Jan 2. PMID:24389247 (<http://www.ncbi.nlm.nih.gov/pubmed/24389247>) doi:<http://dx.doi.org/10.1016/j.bbamcr.2013.12.019>

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This page was last modified 19:10, 17 December 2015.

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