BACTERIAL SECRETION SYSTEM Type IV Type VI Type I Type III Type II Type Va Vb Vc Intracellular toxins Cholera toxin, Exotoxin A Heat-labile (LT) toxin Cell wall-degrading enzymes Effector proteins DNA DNA-protein complexes RTX toxins HlyA, RtxA Proteases Effector proteins Needle proteins Components of the translocon YopB, YopD, LcrV Effector proteins Adhesins, proteases, toxins. Effector proteins Lipases S-layer proteins Host cell Host cell T(ygrG) Plasma Plasma membrane membrane T-pilus <mark>YscF</mark> Ysc⊕PX VirB⊉ Extracellular ∜irB3, milieu $(Y_{sc}W)$ Outer membrane TolC GspD VirB7, 9 Lip VirB1 $^{ m GspC}_{ m GspGHIJK}$ Periplasm HlyD VirB6, 8, 10 IcmF, DotU Twin arginine targeting (Tat) Sec-SRP YscJ SecDEFGY YajCYidC Inner GspFLM TatABCE HlyB ClpV PpkA membrane VirB4(VirB11 |VirD4 YscVURTS (GspO)ĹFtsY. Fha1 YscN YscQL GspE (SecA) Bacterial cytoplasm PppA ၜ 0 ၜ ကြား 0 ATP ATP ATP ATP ATP ATP ATP ATP ffh SecB Type VI Type IV Type III Type I Type II Type Va Vb Vc Outer membrane protein (OMP) K12340 Periplasmic protein Needle Secretin OMP Secreted substrate K11903 K04059 K02465 K11016 K03198 K04056 K04057 K03197 K03200 Membrane fusion protein OMP Surface/pilus protein K02456 K03204 K11906 K03219 IMP K02452 OMP K03202 ABC transporter OMP Secretin K04058 K02459 K03201 K03203 K11891 OMP IMP IMP Inner membrane protein (IMP) K03222 K03226 K03227 K02460 K02462 K03199 K03196 K03205 K11907 K02461 ATPase ATPase K03230 K02454 K11915 K03228 K03229 K11912 K11913 ATPase Regulatory protein K03224 Leaderpeptidase ATPase K02464 ATPase-associated rootein K03225 K03223 Sec-SRP Twin arginine targeting (Tat) IMP K03116 K03117 K03118 IMP K03072... K03075 K03217 K03210 K03070 ATPase K13301 Secretion monitor SRP receptor K03110 Targeting protein

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