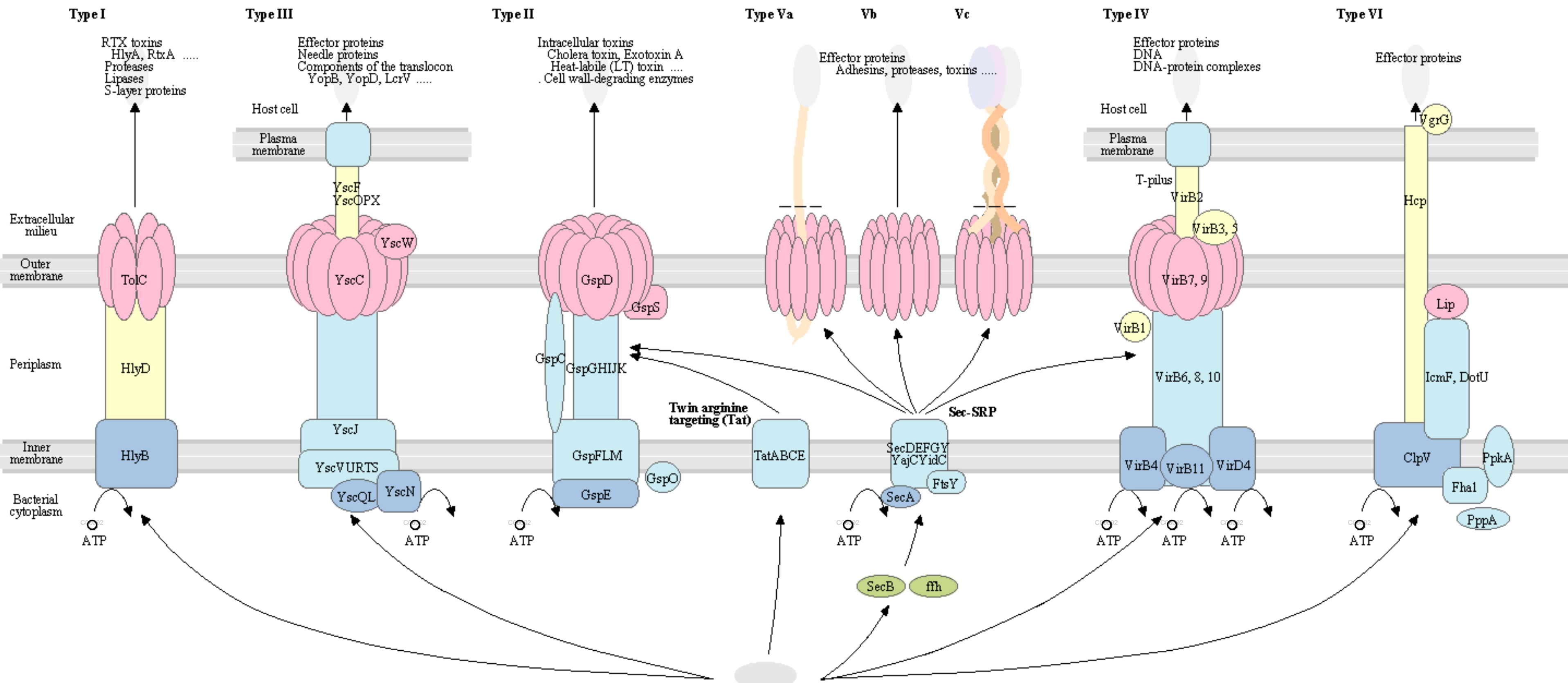


# BACTERIAL SECRETION SYSTEM



**Type I**

Outer membrane protein (OMP)	TolC
Membrane fusion protein	HlyD
ABC transporter	HlyB

**Type III**

Needle	YscF	YscOPX	YscC	YscW
Secretin	YscJ	YscVURTS	YscQL	YscN
OMP	YscQL	YscN		
Inner membrane protein (IMP)	YscJ	YscVURTS	YscQL	YscN
ATPase	YscQL	YscN		
ATPase-associated protein	YscQL	YscN		

**Type II**

Secretin	GspD	GspS	GspC	GspGHIJK	GspFLM	GspE	GspO
OMP	GspD	GspS	GspC	GspGHIJK	GspFLM	GspE	GspO
IMP	GspD	GspS	GspC	GspGHIJK	GspFLM	GspE	GspO
ATPase	GspD	GspS	GspC	GspGHIJK	GspFLM	GspE	GspO
Leaderpeptidase	GspD	GspS	GspC	GspGHIJK	GspFLM	GspE	GspO

**Sec-SRP**

IMP	SecA	SecB	fhf
ATPase	SecA	SecB	fhf
Secretion monitor	SecA	SecB	fhf
SRP receptor	SecA	SecB	fhf
Targeting protein	SecA	SecB	fhf

**Type Va, Vb, Vc**

OMP	VirB1	VirB2	VirB3	VirB5
IMP	VirB1	VirB2	VirB3	VirB5
ATPase	VirB1	VirB2	VirB3	VirB5

**Type IV**

Periplasmic protein	VirB1	VirB2	VirB3	VirB5
Surface/pilus protein	VirB1	VirB2	VirB3	VirB5
OMP	VirB1	VirB2	VirB3	VirB5
IMP	VirB1	VirB2	VirB3	VirB5
ATPase	VirB1	VirB2	VirB3	VirB5

**Type VI**

Secreted substrate	YgrG	Hcp	Lip	IcmF	DotU	PpkA	Fha1	PppA
OMP	YgrG	Hcp	Lip	IcmF	DotU	PpkA	Fha1	PppA
IMP	YgrG	Hcp	Lip	IcmF	DotU	PpkA	Fha1	PppA
ATPase	YgrG	Hcp	Lip	IcmF	DotU	PpkA	Fha1	PppA
Regulatory protein	YgrG	Hcp	Lip	IcmF	DotU	PpkA	Fha1	PppA