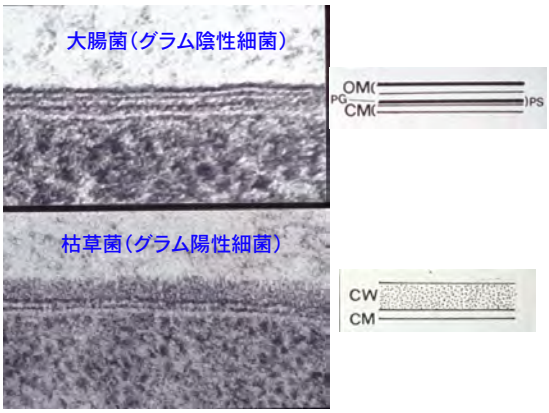
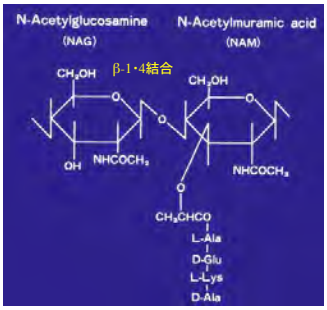
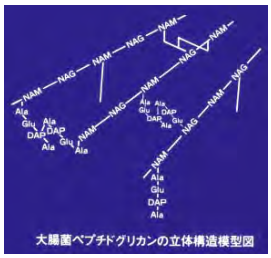
7. 超薄切片法で見た細胞壁の構造

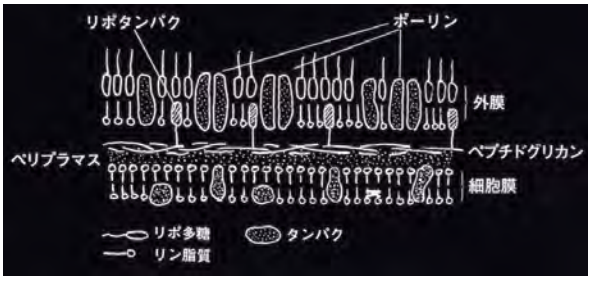


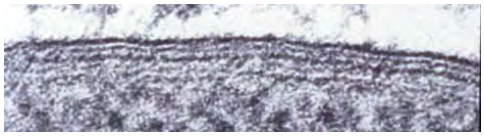
8. ペプチドグリカンの構成ユニットとペプチド鎖の結合





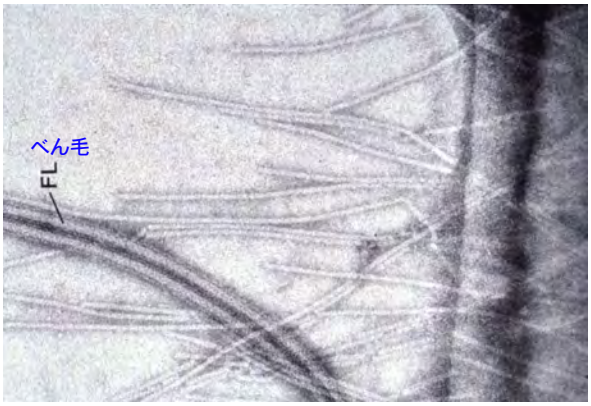
9. グラム陰性外膜



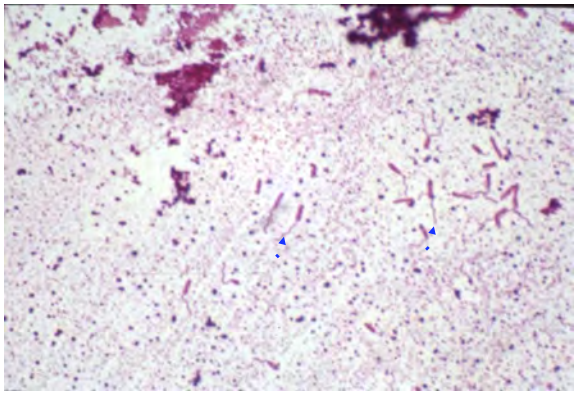


15. 毒素原性大腸菌のもつ線毛CFA/I

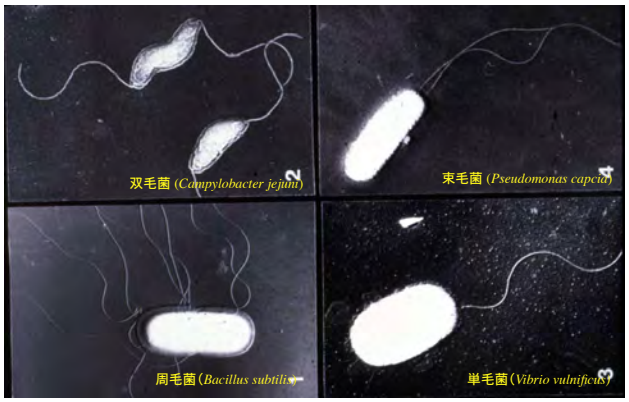
16. 大腸菌のtype I 線毛とべん毛



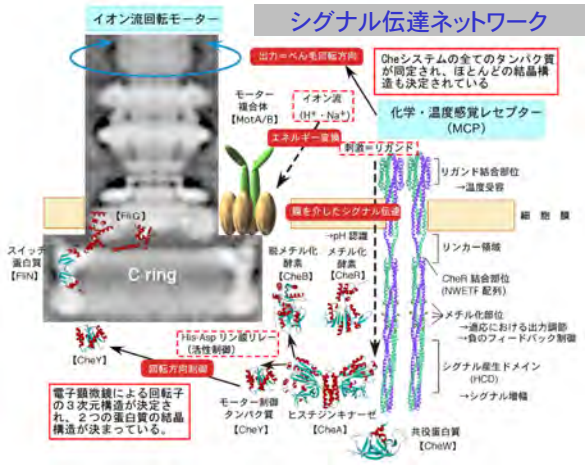
17. 緑膿菌のべん毛染色（戸田法）



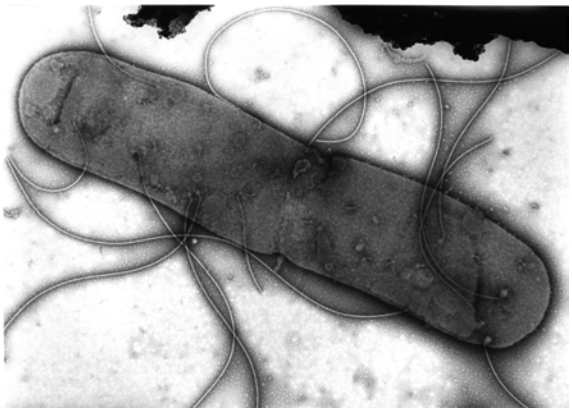
18. 菌体へのべん毛のつきかた



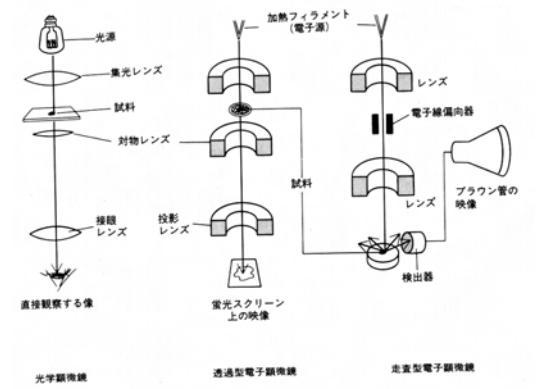
シグナル伝達ネットワーク

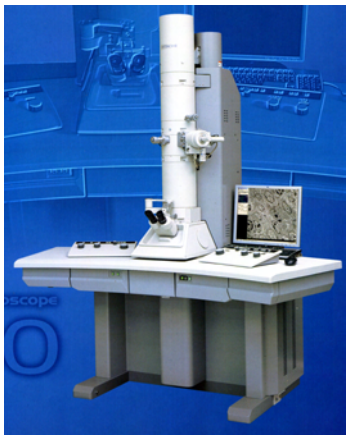


Electron micrograph of *Salmonella* cell



電子顕微鏡模式図

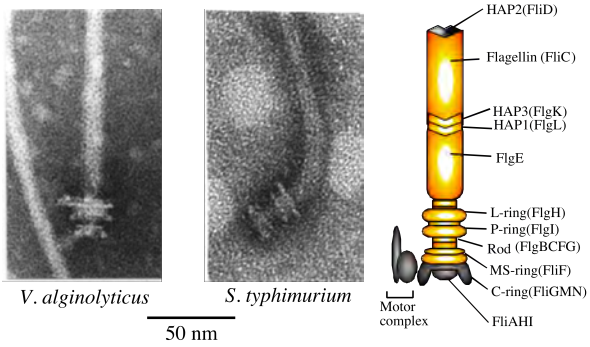




最新の電子顕微鏡

安いもので、
5000万円くらい

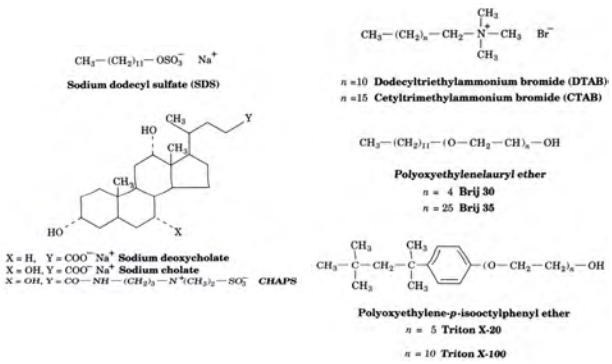
Flagellar Structure Observed by Electron Microscopy



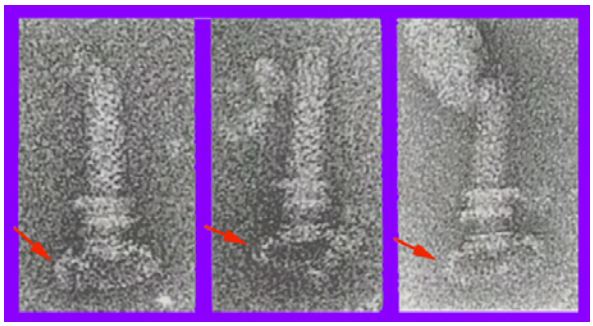
べん毛の単離プロトコール

1）菌体の回収（低速遠心）
2）しょ糖を含む緩衝液にいれる
3）リゾチーム処理+ EDTA
4）トリトンX－100処理
5）$MgSO_4$+DNase
6）EDTA
7）低速遠心
8）10万gで遠心
9）沈殿をバッファーに懸濁

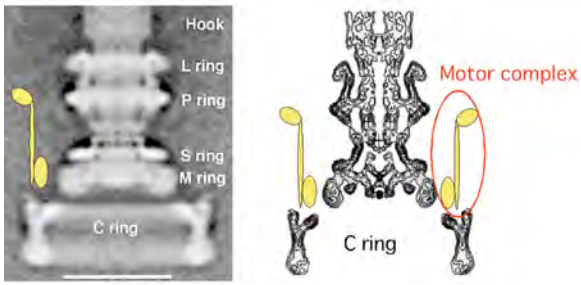
生化学で用いられる界面活性剤



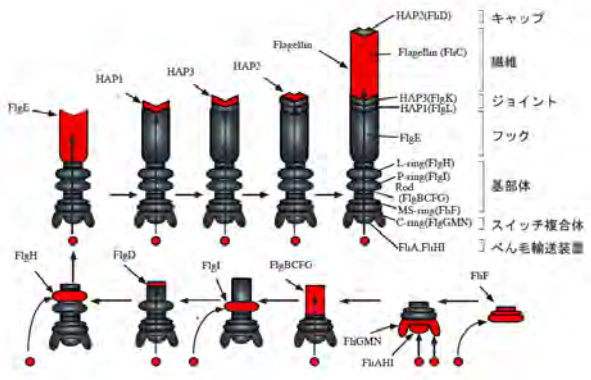
Electron micrographs of hook-basal body and C-ring structure (red arrows)



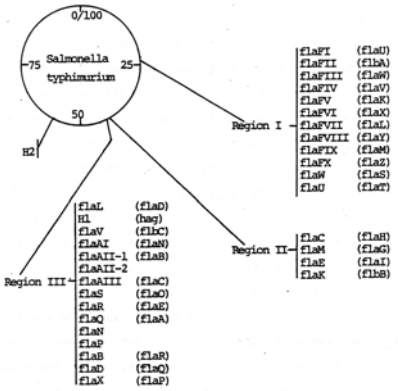
Motor Structure of flagella



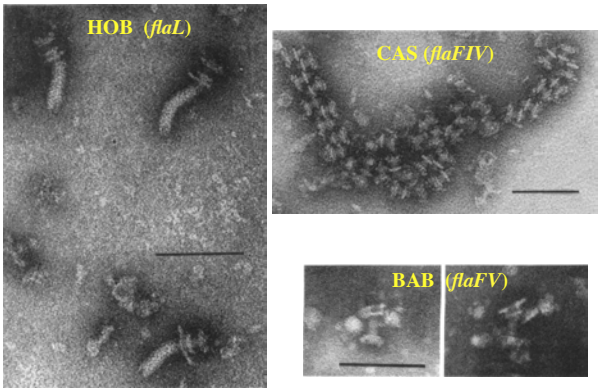
べん毛形成過程のモデル



Chromosomal map of the ganes essential for flagellar formation in *Salmonella typhimurium*.

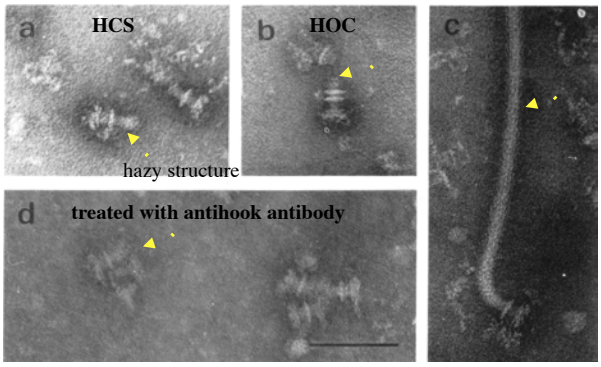


Flagellar partial structures I



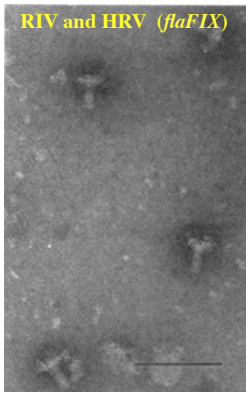
Suzuki et al., J. Bacteriol. (1978)

Flagellar partial structures II: from a *flaFVIII* mutant



Suzuki et al., J. Bacteriol. (1978)

Flagellar partial structures III



Suzuki et al., J. Bacteriol. (1978)

Frequencies of flagellar structures detected in nonflagellate mutants[a]

Determination	Structural entity								
	IF	HOB	BAB	CAS	RIV	RCT	HCS	HRV	HOC
Flagellate parent	++[b]	+[c]	+	+ or −[d]	+	+ or −	−	−	−
H1⁻, *H2*⁻	−	++	+	+ or −	+	−	−	−	−
flaL	−	++	+	+ or −	+	−	−	−	−
flaU	−	++	+	+ or −	+	−	−	−	−
flaR	−	++[c]	+	+ or −	+	−	−	−	−
flaFV	−	−	+	+	++	++	−	−	−
flaFVIII	−	−	−	+	+	−	++	+ or −	+
flaFI	−	−	−	−	++	−	−	++	−
flaFIX	−	−	−	−	++	−	−	++	−
flaFIV	−	−	−	++	+	−	−	−	−
flaAI	−	−	−	−	−	−	−	−	−
flaAII	−	−	−	−	−	−	−	−	−
(*motC*)	++[f]	+	+	+ or −	+	−	−	−	−
flaAIII	−	−	−	−	−	−	−	−	−
flaB	−	−	−	−	−	−	−	−	−
flaC	−	−	−	−	−	−	−	−	−
flaD	−	−	−	−	−	−	−	−	−
flaE	−	−	−	−	−	−	−	−	−
flaFII	−	−	−	−	−	−	−	−	−
flaFIII	−	−	−	−	−	−	−	−	−
flaFVI	−	−	−	−	−	−	−	−	−
flaFVII	−	−	−	−	−	−	−	−	−
flaFX	−	−	−	−	−	−	−	−	−
flaK	−	−	−	−	−	−	−	−	−
flaM	−	−	−	−	−	−	−	−	−

[a] The frequencies of IF and flagellar basal structures detected in fraction BMII of flagellate parents and nonflagellate mutants are shown.
[b] ++, The count of each structural entity from ⅛ to 5× the count of IF in its flagellate parent.
[c] +, The count of each structural entity from 1/250 to ⅛ the count of IF in its flagellate parent.
[d] −, The count of each structural entity less than 1/250 the count of IF in its flagellate parent.
[e] Polyhook basal body complexes were detected.
[f] Paralyzed flagella, which were not discriminated morphologically from the IF of their flagellate parent.

Suzuki et al., J. Bacteriol. (1978)

Stepwise process of flagellar morphogenesis in *Salmonella* inferred from the flagellar structures detected on nonflagellate mutants.