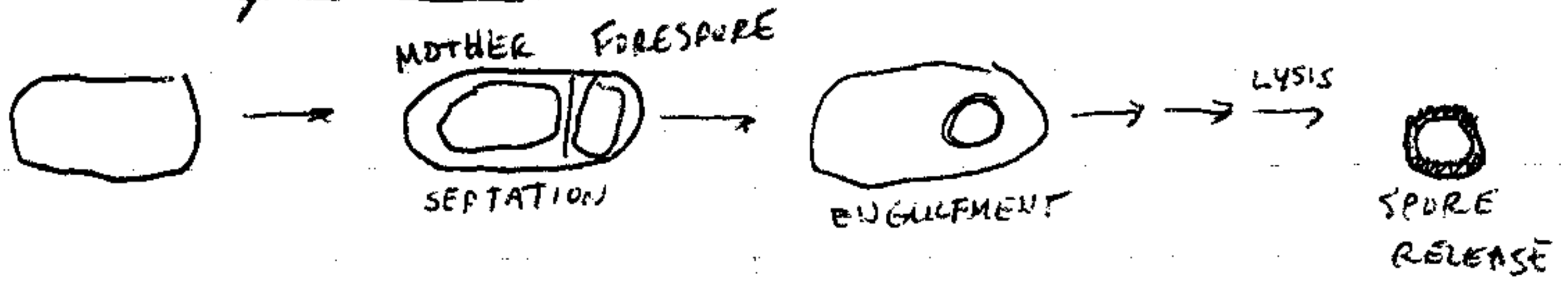


B. subtilis sporulation



Spores

Resistant to heat, UV, chemicals

Gene Expression

① Differs in two compartments

② σ factors

Mother
 $\sigma^E \rightarrow \sigma^K$

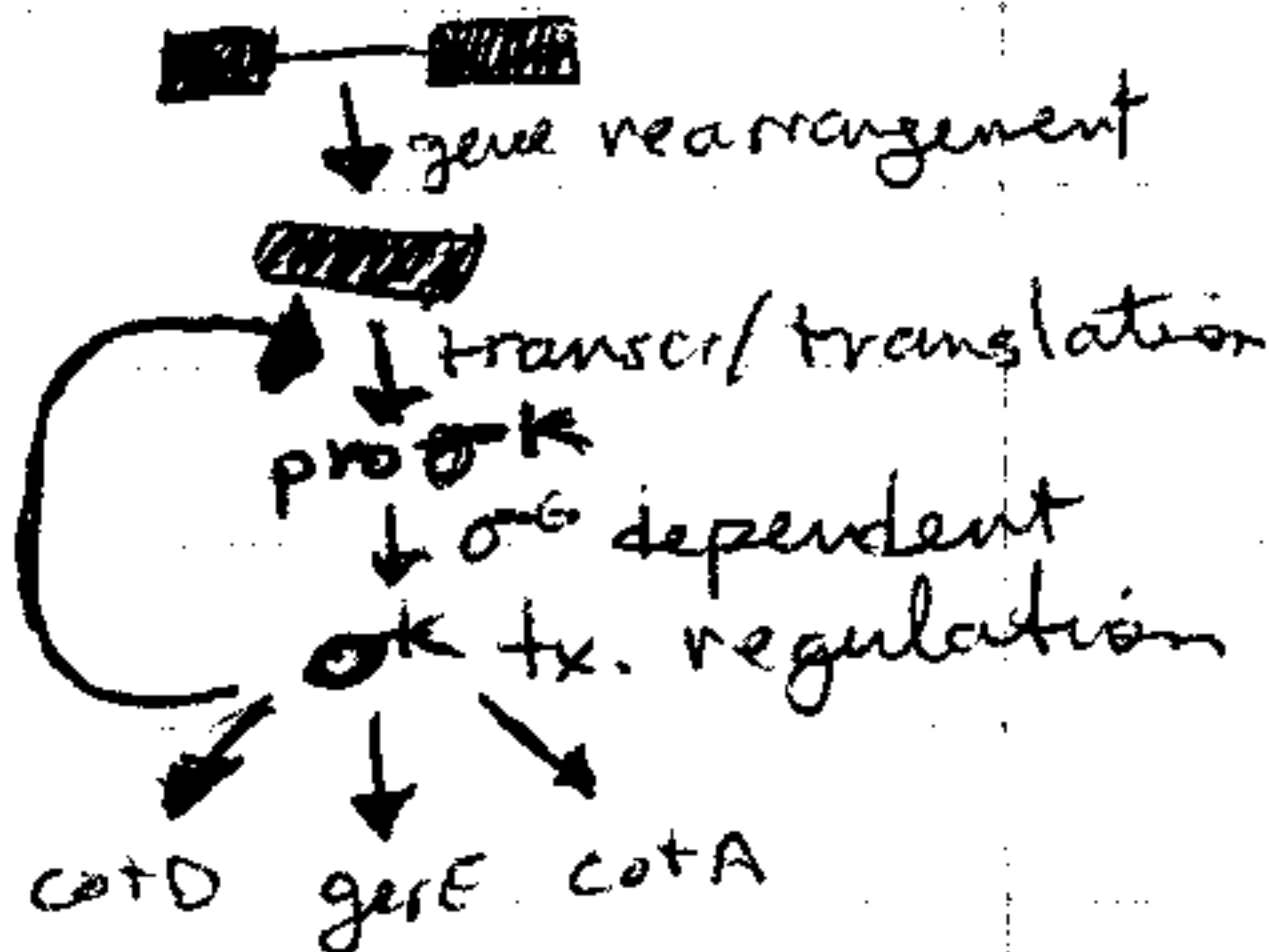
Forespore
 $\sigma^F \rightarrow \sigma^G$

- cascade crosses between cells

$\sigma^F \rightarrow \sigma^E \rightarrow \sigma^G \rightarrow \sigma^K$

σ^K

① requires gene rearrangement



Experiments

σ^K deleted for pro sequence

- (a) - restores expression of σ^K dependent genes
- but expression starts a little earlier

(b) these strains have decr. sporulation/germination



IVF

IVFA

IVFB

BOFA

} tx. by σ^E

suggests that IVB is protease

IVB

- σ factor

- controlled by σ^G

IVB

- mitogenesis

Boxtin g

