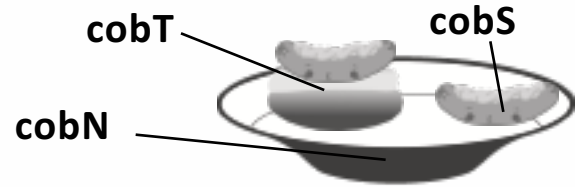
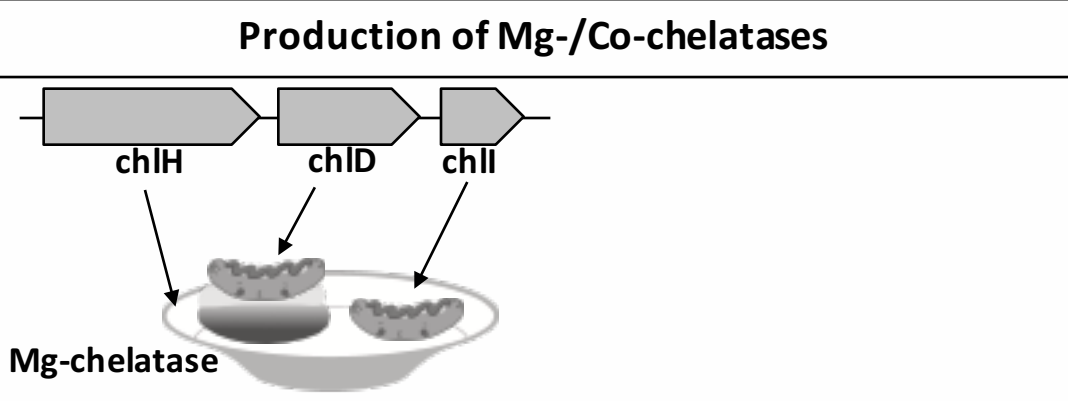


Mg-chelatase chIHDH



Co-chelatase cobNST

A



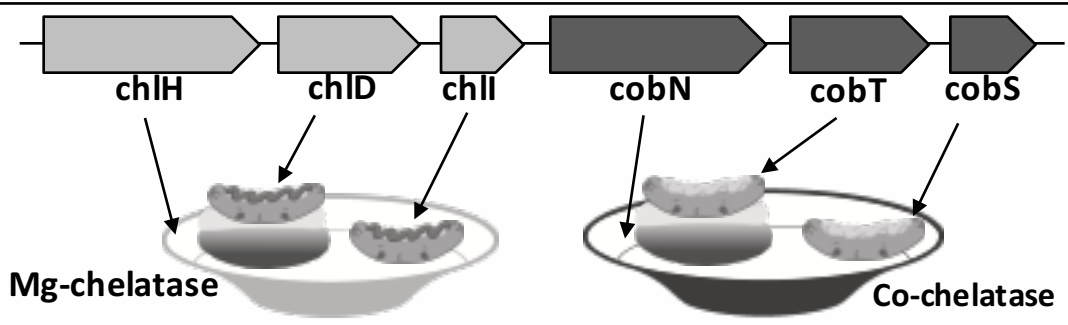
Genotype(s) [*main taxa*] (reference)

chIH, chID, chII

Proteobacteria

Mg-chelatase: (Gibson et al. 1995)

B



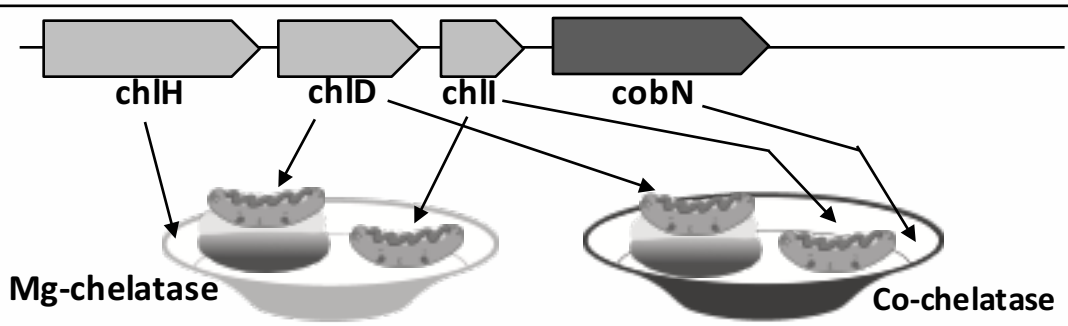
cobN, cobT, cobS, chIH, chID, chII

Proteobacteria

Mg-chelatase: (Gibson et al. 1995)

Co-chelatase: (Debussche et al. 1992)

C



cobN, chIH, chID, chII

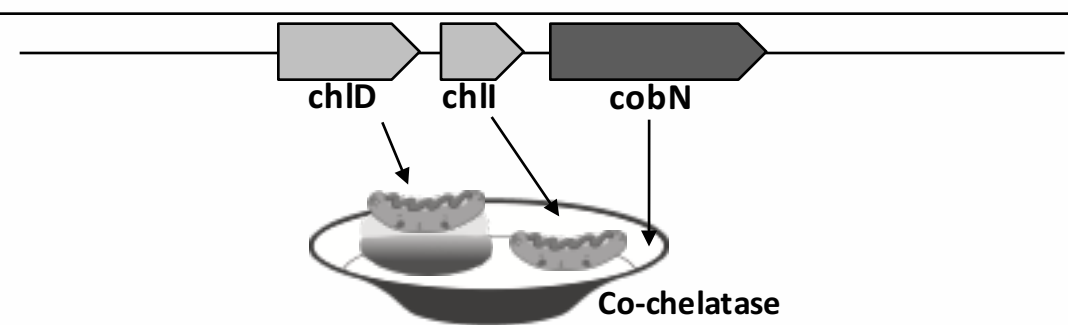
cobN, 2xchIH, chID, chII

Cyanobacteria

Mg-chelatase: (Gibson et al. 1995)

Co-chelatase: (Rodionov et al. 2003)

D

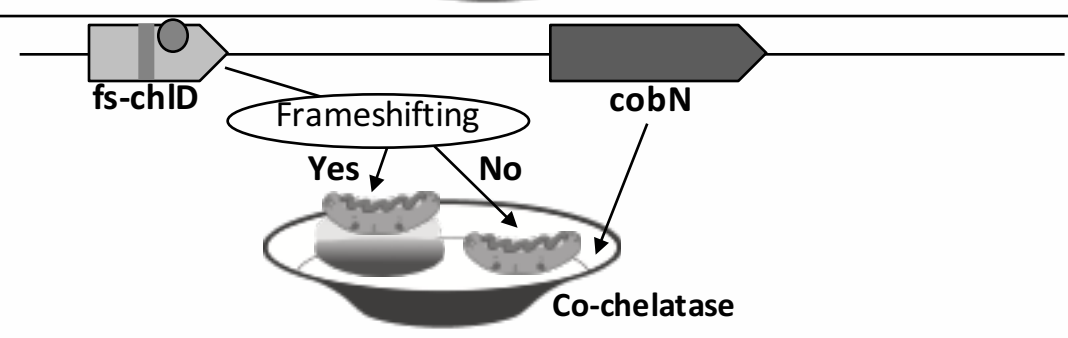


cobN, chID, chII

Actinobacteria

Co-chelatase: (Rodionov et al. 2003)

E

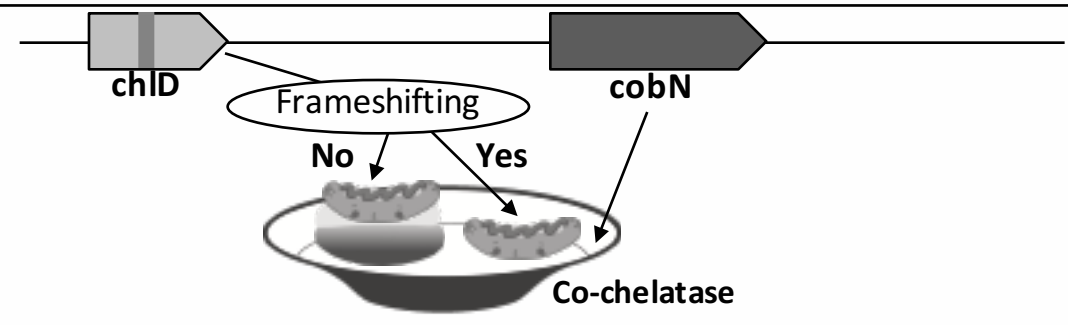


cobN, fs-chID

Proteobacteria, Actinobacteria, Archaea

Co-chelatase: (this study)

F



cobN, chID

Proteobacteria, Actinobacteria, Archaea

Co-chelatase: (this study)

 - *chID* gene with a frameshifting signal

 - *fs-chID* gene with a frameshifting signal and a frameshift mutation