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Haloarchaeal versus prokaryotic viruses; Infection cycle; Related or not related, that's the problem; The influence of viral genes on their hosts; Haloarchaeal viruses; Conclusions and future prospects; 5: Microbial Adaptation to Saline Environments: Lessons from the Genomes of Natranaerobius thermophilus and Halobacillus halophilus IntroductionThe anaerobic polyextremophile Natranaerobius thermophilus; The aerobic moderately halophilic Halobacillus halophilus; Synopsis; 6: Staying in Shape: The Haloarchaeal Cell Wall; Introduction; Structure of haloarchaeal surface (S)-layers; Haloarchaeal S-layer glycoproteins; Glycosylation of haloarchaeal S-layer glycoproteins; Modulation of haloarchaeal S-layer glycoprotein N-glycosylation as an adaptive response; Lipid-modification of haloarchaeal S-layer glycoproteins; The cell envelope of the square haloarchaeon, Haloquadratum walsbyi
Does the haloarchaeal cell envelope include a periplasmic space?The heteropolysaccharide cell walls of Halococcus morrhuae and Natronococcus occultus; Future trends; 7: Cell Cycle and Polyploidy in Haloarchaea; Introduction; The cell cycle of Halobacterium salinarum; Regulated polyploidy in haloarchaea; Evolutionary advantages of haloarchaeal polyploidy; Gene conversion and escape from 'Muller's ratchet'; Conclusions and outlook; 8: Cell Regulation by Proteolytic Systems and Protein Conjugation; Introduction; Intramembrane proteolysis; Energy-dependent proteases
Targeting proteins for proteolysis

Sommario/riassunto

Extreme halophilic environments - including salt lakes and springs, seawater evaporation facilities for the production of sea salt, and subterranean salt deposits derived from ancient oceans - are distributed patchily all over the world. The life that dominates them is microbial (e.g., prokaryotes and the viruses that infect them). The best studied in these environments are the haloarchaea (family Halobacteriaceae), a diverse group of salt-loving organisms in the archaeal phylum Euryarchaeota. These remarkable organisms have an obligate requirement for salt concentrations between 10% and 35% N