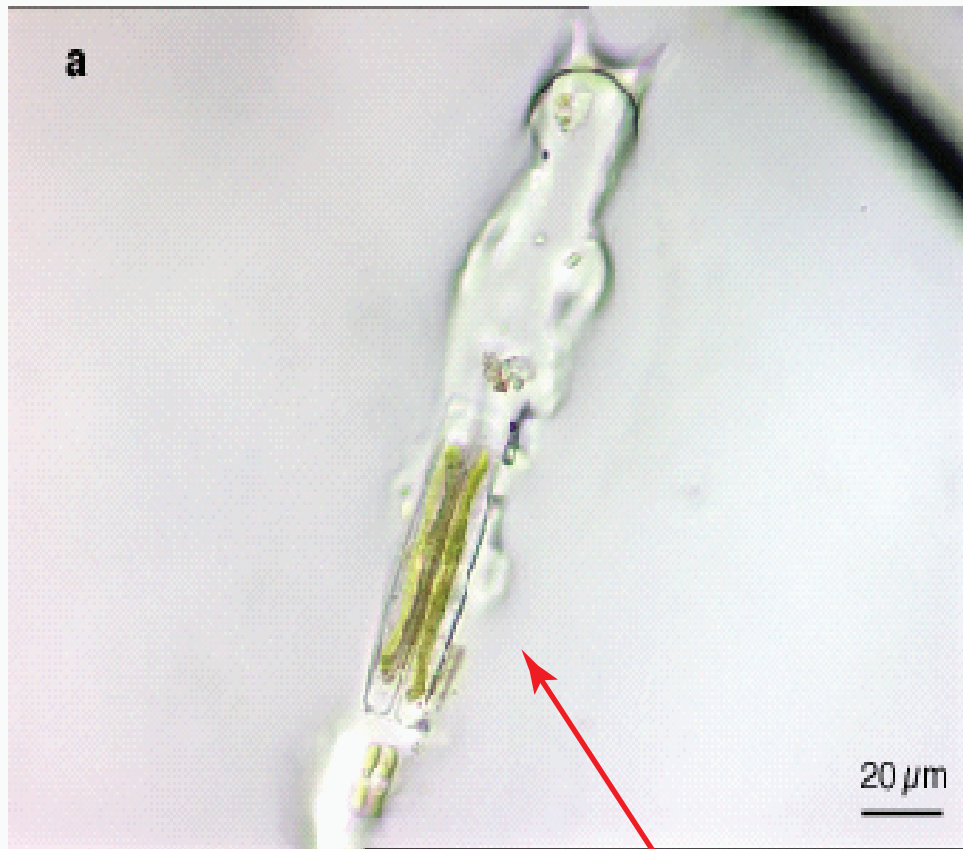
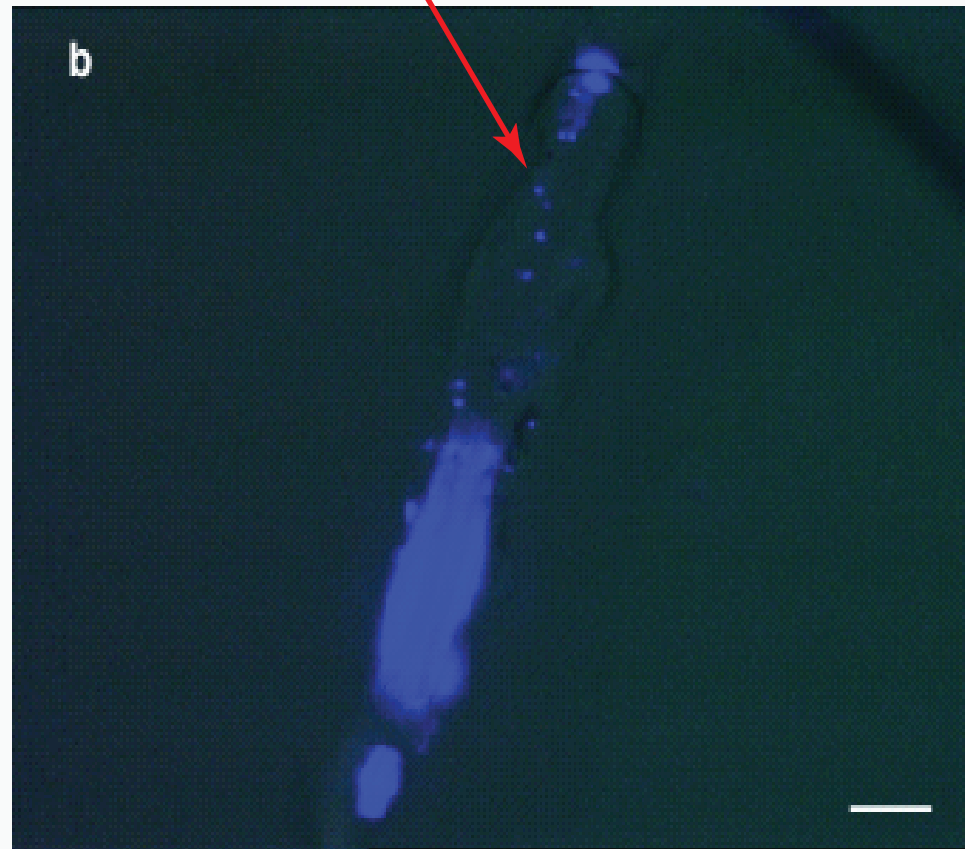


bacteria



diatoms



diatoms in EPS-filled pores in natural sea ice

EPS : exopolymers, sugars,
gelatinous material,
mucous

EPS helps protect microorganisms
against osmotic shock:

highly concentrated brine
fresh water from melt ponds

Acts as an antifreeze, cryoprotectant

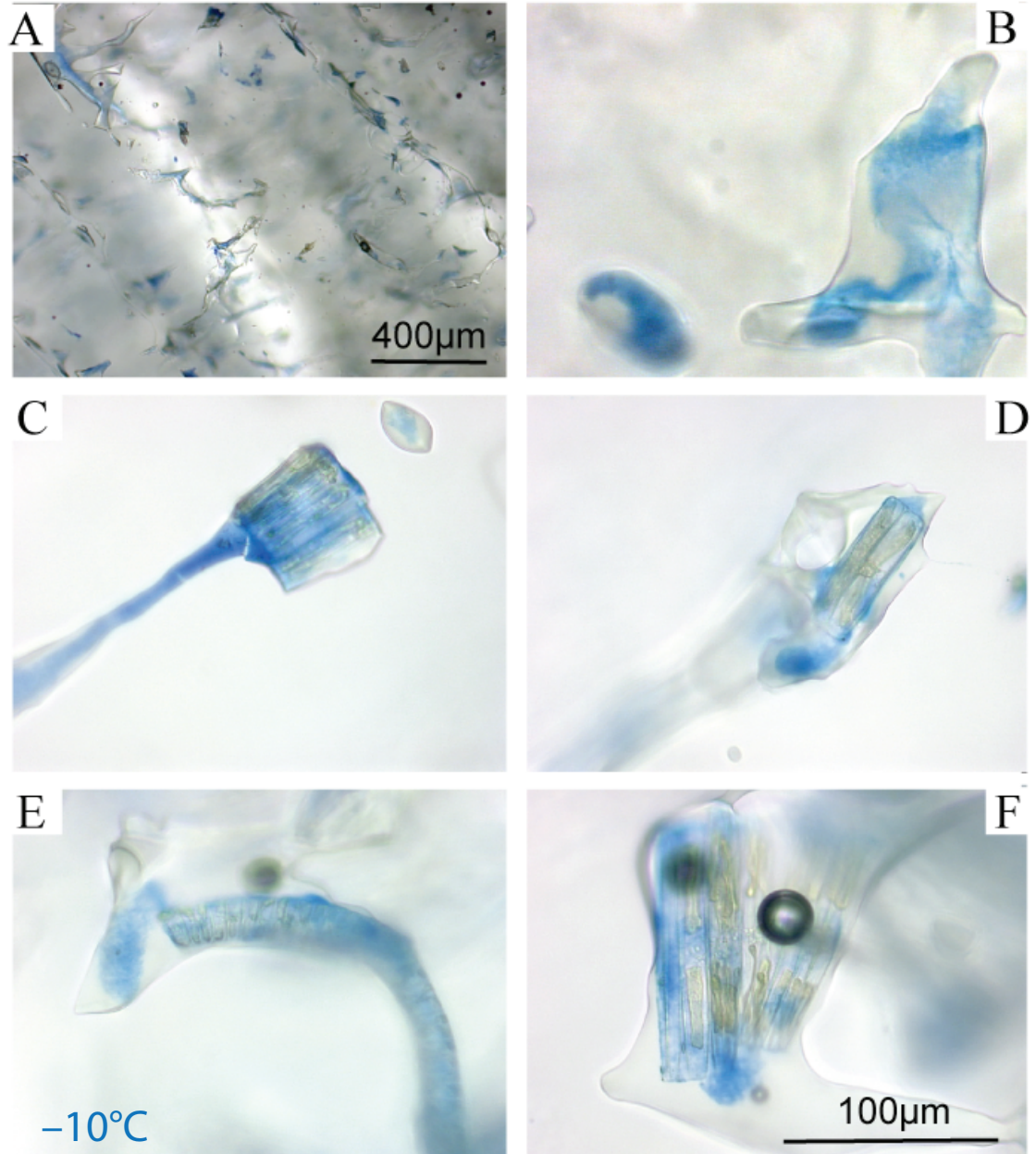
Depresses the freezing point

Provides a physical barrier from ice crystals

Transmitted light with
Alcian Blue stain for EPS

Extracellular Polysaccharide Substances (EPS)

polysaccharides with carbon backbones of high molecular weight

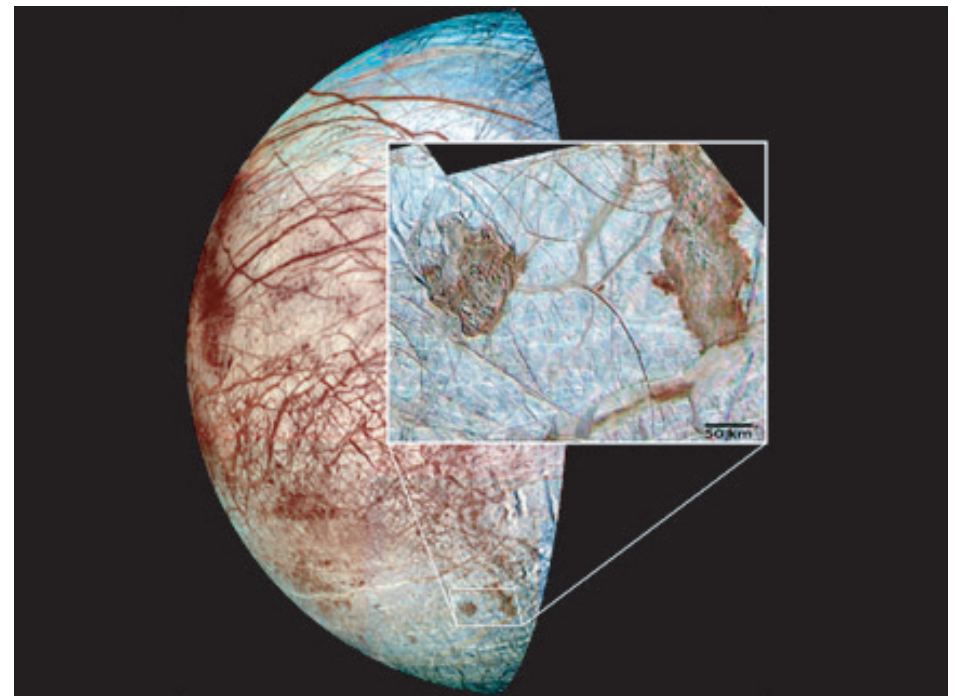


Jody Deming and Christopher Krembs

Fig. 1 Krembs et al.

Are sea ice algae and bacteria
proxies for possible life forms
on extraterrestrial, icy bodies?

(Thomas, Dieckmann, *Science*, 2002)



EUROPA - believed covered by deep
briny ocean, with thick icy crust

