

## The major *Thiobacillus ferrooxidans* outer membrane protein forms low conductance ion channels in planar lipid bilayers

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A protein isolated and purified from the outer membrane of the acidophilic, chemolithotrophic bacterium, *Thiobacillus ferrooxidans* with an oligomeric molecular weight of 90 000 Da (p9O) was incorporated into phosphatidylethanolamine planar lipid bilayers. The protein formed slightly anionic channels in KCl solutions, with a conductance of 25 pS in 100 mM KCl. The current-voltage relationship was linear between  $\pm 60$  mV, and the conductance was a saturating function of the salt concentration. These channels fluctuated from a single open to closed state at low potentials, but present flickering activity at higher potentials. © 1992.