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*Cover photograph* (Copyright © 2006, American Society for Microbiology. All Rights Reserved.): Gram-negative bacteria can be plasmolyzed by high concentrations of sucrose, which results in the formation of “plasmolysis bays” throughout the length of the cell. These bays result from the contraction and invagination of the cytoplasmic membrane in response to hyperosmotic shock. The phase-contrast microscopy image of plasmolyzed *Escherichia coli* has been modified and colored with Adobe Photoshop in order to emphasize the invaginated cytoplasmic membrane. This assay was used to visualize red fluorescent lipoproteins that were localized to either the outer or cytoplasmic membrane. (See related article on page 3516.)