

**FIGURE 13-7 (Continued)**

(the TER falls to zero with ATP depletion). The cellular junctional complex that controls the TER is the tight junction. When the TER falls to zero, this suggests that tight junction structural integrity has been compromised. **D** and **E**, Staining of renal epithelial cells with antibodies that bind to a component of the tight junction, ZO-1 [37]. **D**, ZO-1 staining in untreated Mardin-Darby canine kidney (MDCK) cells. ZO-1 is located at the periphery of cells at cell contact sites, forming a continuous linear contour. **E**, In ATP-depleted cells the staining pattern is discontinuous. **F** and **G**, Ultrastructural analysis of the tight junction in MDCK cells. In untreated MDCK cells, electron micrographs of the tight junction in freeze fracture preparations [38]. In ATP depleted cells the strands are disrupted, forming aggregates (*arrows*). Note that the continuous strands are no longer present and large gaps are observable.

Acknowledgment

These studies were in part supported by the National Institute of Diabetes and Digestive and Kidney Diseases Grants DK 41126 (BAM) and DK4683 (RB) and by an American Heart

Association Established Investigator Award (BAM), a VA Merrit Review Grant (BAM), and a NKF Clinical Scientist Award (RB).

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