**Microvillus Inclusion Disease**

Microvillus Inclusion Disease (MVID) is an extremely rare intestinal disorder characterized by intractable, severe diarrhea that manifests almost immediately after birth. MVID is usually the result of mutations in the MYO5B gene that codes for a form of myosin. It may be familial, inherited in an autosomal recessive manner. The disease is almost always fatal without parenteral nutrition, with small intestine transplantation being the mainstay of treatment. Light microscopic & cytochemical/immunochemical findings may suggest the diagnosis in surgical pathology specimens. The definitive diagnosis of MVID requires electron microscopy by demonstrating membrane-bound inclusions containing microvilli in the apical cytoplasm of the small intestine epithelial cells.

**Specimen Requirements**

The sample should consist of 2-3mm pieces of small intestinal mucosa in EM fixative\*. Examination can be attempted on formalin-fixed or paraffin-embedded material (less optimal).

\*An appropriate EM Fixative contains 1.5 – 3.0% glutaraldehyde in a stable buffer (pH 6.8-7.3). It may also contain formalin up to 4%. Pieces should be no bigger than 3 mm in any one dimension. The fixative can be obtained free of charge by calling the UNMC Electron Microscopy Laboratory at 402-559-6420.