PARIETAL CELL + ATPase

FUNCTION:

Parietal cells, also known as, Oxyntic Cells, are stomach epithelium cells, which secrete gastric acid and intrinsic factor. ATPases are a class of enzymes that increase the rate of the decomposition of adenosine triphosphate (ATP) into adenosine diphosphate (ADP) and a free phosphate ion. This dephosphorylation reaction releases energy. ATPase harnesses this energy to drive other chemical reactions.

ANTIBODIES APPEAR:

Gastric Autoimmunity1,2,4
Chronic Atrophic Gastritis4
Pernicious Anemia6

CLINICAL SIGNIFICANCE:

Antibodies against Parietal Cell have been shown in autoimmune gastric disorders.2,3,4 Due to the role Parietal Cells play in the absorption of Vitamin B12, patients with Parietal Cell antibodies exhibit Vitamin B12 deficiency.3 A high prevalence of Parietal Cell antibodies and associated autoimmune gastric disease is present in Parietal Cell antibody-positive-type 1 diabetic patients.2,3 Thus, type 1 diabetic patients should be screened for antibodies to Parietal Cells. Early detection of these antibodies and the subsequent iron deficiency anemia, pernicious anemia and/or atrophic gastritis, could reduce the morbidity in the type 1 diabetic population.3 In the majority of adult patients with autoimmune gastritis, parietal cells are the target of the autoimmune destruction, the pathogenesis of which utilizes ATPases.4

KNOWN CROSS-REACTIONS:

Kidney Brush Border6, Helicobacter pylori lipopolysaccharide7

References: