CYREX® Laboratories

CLINICAL SPECIFICATIONS

CYTOCHROME P450 (HEPATOCYTE)

Function:

The cytochrome P450 (CYP) superfamily is a large and diverse group of enzymes, most of which catalyze the oxidation of organic substances. A hepatocyte is a cell of the main tissue of the liver. Hepatocytes make up 70-80% of the liver's cytoplasmic mass. These cells play a role in: protein synthesis; protein storage; transformation of carbohydrates; synthesis of cholesterol, bile salts and phospholipids; detoxification; modification, and excretion of exogenous and endogenous substances; and initiates formation and secretion of bile.

Antibodies Appear:

Autoimmune Hepatitis Type 2[4]
Chronic Hepatitis C[4]
Heptocellular Carcinoma[3]
Liver/Mycrosomal Autoimmunities[1, 2]

Known Cross-Reactions: asialoglycoprotein receptor,[2] gliadin[5]

Clinical Significance:

Because anti-hepatocyte antibodies have high specificity for autoimmune hepatitis and are directed against a single antigen, increased antibody levels may indicate a pertinent pathogenic process. Antibodies to hepatocytes may be potential markers of a genetic propensity for recrudescent disease, the target auto-antigen, and nonspecific autoimmune exacerbators. Hepatocyte antibodies can be used as complementary to conventional markers, such as anti-nuclear antibodies and actin antibodies, in the clinical assessment of patients with type 1 autoimmune hepatitis.[2] Alopecia has been recognized as an extrahepatic manifestation of type 2 autoimmune hepatitis and thus its appearance could alert the practitioner to an increased risk of autoimmune hepatitis in the pediatric population.[1]

References:

1. Chaves, et al. Anti-liver-kidney microsome antibody-positive autoimmune hepatitits associated with alopecia. J Pediatr Gastroenterol Nutr, 1991; 12:288-290.
2. Czaja, et al. Antibodies to soluble liver antigen/liver pancreas and HLA risk factors for type 1 autoimmune hepatitis. Am Coll Gastroenterol, 2002; 97(2):413-419.
3. Wood, et al. Hepatocellular carcinoma metastatic to skin: diagnostic utility of antihuman hepatocyte antibody in combination with albumin in situ hybridization. J Cutan Pathol, 2009; 36:262-266.
4. Zachou, et al. Autoantibodies and autoantigens in autoimmune hepatitis: important tools in clinical practice and to study pathogenesis of the disease. J Autoimmune Dis, 2004; 1:2 doi:10.1186/1740-2557-1-2
5. Vojdani and Tarash. Cross-reaction between gliadin and different food and tissue antigens, Food Nutri Sci, 2013; 4:20-32.