Antigen Overview:

LC-1 is a marker for autoimmune hepatitis (AIH) type II and antibodies against LC-1 are found to be detected in up to 50% of cases. Immunofluorescence of LC-1 is often not identified due to the brightness of LKM-1 obscuring accurate visualisation. Some occurrences of anti-LC-1 in conjunction with antinuclear antibodies (ANA) and smooth muscle antibodies (SMA) in patients with chronic hepatitis C and autoimmune hepatitis, is known. Some case studies have shown that anti-LC-1 is found as the only serological marker in patients with AIH type II.

The antigen recognised by LC-1 antibodies has been identified as formiminotransferase cyclodeaminase (FTCD). FTCD is a bifunctional enzyme which consists of 8 identical molecular subunits of 60 kDa each arranged in a circular tetramer of dimers. FTCD catalyses two independent but sequential reactions in the histidine degradation pathway in the mammalian liver. Each subunit consists of an N-terminal transferase active domain and a C-terminal deaminase active domain. The dimers are responsible for the separate activities of both the transferase and deaminase activity.

Ordering Information:

ATL04-02 - LC-1 antigen (recombinant) - 0.20 mg
ATL04-10 - LC-1 antigen (recombinant) - 1.0 mg

Custom pack sizes available on request

Storage Conditions & Handling:

Store at -65°C or below
Avoid repeated freezing and thawing
Storage buffer contains 20% Glycerol as cryoprotectant
Mix before use and keep on ice

Applications:

After coating onto ELISA plates the product will bind auto antibodies to LC-1; recommended starting ELISA coating concentration 0.2 µg/well
Positive on Western Blot using sample with auto antibodies to LC-1 (e.g. patient serum), antibodies against FTCD or hexa-Histidine tag

References:

Muratori L et al. (1998) Liver/kidney microsomal antibody type 1 and liver cytosol antibody type 1 concentrations in type 2 autoimmune hepatitis. Gut 42:721-6
Beland K et al. (2004) Anti-LC1 autoantibodies in patients with chronic hepatitis C virus infection. J. Autoimmun. 22:159-66
Lenzi M et al. (1995) Liver cytosolic 1 antigen-antibody system in type 2 autoimmune hepatitis and hepatitis C virus infection. Gut 36: 749-54
Kohls D et al. (2000) The crystal structure of the formiminotransferase domain of formiminotransferase cyclodeaminase: implications for substrate channeling in a bifunctional enzyme. Structure 8: 35-46
Lapiere P et al. (1999) Formiminotransferase cyclodeaminase is an organ-specific autoantigen recognized by sera of patients with autoimmune hepatitis. Gastroenterol. 116:643-9
Martini E et al. (1988) Antibody to liver cytosol (anti-LC1) in patients with autoimmune chronic hepatitis type 2. Hepatol. 8:1662-6