Anti-Striational Muscle Antibodies in Myasthenia Gravis—
Especially in Myasthenia Gravis with Thymoma—
Mitsuhiro Ohta, Kiyo Ohta, Fumiyo Mori, Makie Itagaki,
Kyozo Hayashi* and Hiroshi Nishitani

In order to investigate the antibodies directed against skeletal muscle, we developed a solid-phase radioimmunoassay using a PBS extract of human skeletal muscle as an antigen source. Forty-one out of 44 myasthenia gravis (MG) patients with hymoma had antibodies to muscle PBS extract, while 14 out of 48 MG patients without thymoma did. There was a significant difference in positive percentages of the antibodies between MG patients with and without thymoma. There was no correlation between titers of anti-skeletal muscle antibodies and anti-acetylcholine receptor antibodies. This serologic test may be useful for the evidence of presence of thymoma in patients with MG, in addition to the measurement of anti-AChR antibody.

Kazuyuki Hirano*, Yuichi Iizumi, Yuji Hayashi, Tsuyoshi Tanaka,
Mamoru Sugiura, Kyozo Hayashi, Zhen-Da Lu, Shiro Ino

A monoclonal antibody which is specific for human placental alkaline phosphatase (PALP) and does not cross-react at all with intestinal alkaline phosphatase was prepared, and a procedure for the determination of PALP activity in serum was developed involving this monoclonal antibody bound to a paper disk. The minimum amount of PALP detectable by this method is 0.0025 King-Armstrong unit. Good correlation with the heat-treatment method was obtained. Therefore this proposed method can be used as a routine clinical test for the determination of serum PALP.

Determination of Mitochondrial Aspartate Aminotransferase in Serum.
Kazuyuki Hirano*, Kazuko Matsuda, Tetsuo Adachi, Yoshimasa Ito,
Kyozo Hayashi, Fumitaka Okuno, Yasutoshi Muto

Two specific and sensitive immunoassay methods for the determination of mitochondrial aspartate aminotransferase (m-AST) are described. One is a sandwich enzyme immunoassay which measures immunologically active m-AST. The other is a paper disk method which measures catalytically active enzyme bound to anti m-AST antibody-conjugate paper disk. These assay methods were used to monitor the level of m-AST in serum. From measurements obtained by both methods, the correlation between the concentration of m-AST protein and its activity was poor confirming that an inactive form of m-AST exists in serum, and that the specific activity of serum m-AST differs in individual diseases.