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**Improved Radioassay of Anti-acetylcholine Receptor Antibody : Application for the Detection of Extremely Low Antibody Titers In Sera from Patients with Myasthenia Gravis.**

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We examined sera from 113 patients with myasthenia gravis (MG). Most of the patients with ocular MG without thymoma and 15% of the patients with generalized MG had immunoprecipitation (IP) titers of anti-acetylcholine receptor (anti-AChR) antibodies within the normal range for healthy subjects. We developed a highly sensitive radioassay using *Staphylococcus aureus* cells, and re-examined the 86 serum samples that had negative titers by IP. Using the radioassay, we detected anti-AChR antibodies in 27 (31%) of these myasthenic sera, of which 19 were from ocular MG patients without thymoma.

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**Carbonic Anhydrase III in Serum in Muscular Dystrophy and Other Neurological Disorders: Relationship with Creatine Kinase.**

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We measured with a radioimmunoassay the concentrations of carbonic anhydrase III (CA-III) in sera from 68 patients with muscular dystrophy, 10 carriers of Duchenne muscular dystrophy (DMD), and 63 patients with other neurological disorders. The values obtained were compared with those for creatine kinase (CK). For the muscular dystrophy patients, serum CA-III was strikingly increased in those with DMD, congenital, and limb-girdle dystrophies and positively correlated with the activities of CK in patients with DMD. CA-III concentration decreased with the subjects' age and the severity of the disease, similar to the tendency observed between age or severity.

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**Production and Some Properties of Monoclonal Antibodies Against Human Pancreatic Secretory Trypsin Inhibitor.**

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Hybridomas that secrete monoclonal antibodies against human pancreatic secretory trypsin inhibitor (PSTI) were established by fusion of spleen cells obtained from mice immunized with PSTI with mouse NS-I-Ag 4/1 myeloma cells. One of three resulting monoclonal antibodies (KN-1) was found to recognize the N-terminal moiety of the inhibitor, while the others (KN-2 and KN-3) reacted with other as yet undefined parts of the molecule. Trypsin inhibitory activity of PSTI treated with KN-1 monoclonal antibody was the same as that of PSTI itself, thus indicating no relationship between the N-terminal moiety of the PSTI molecule and its inhibitory activity. We further examined the applicability of KN-1 for immunohistochemical study of human pancreatic cancer tissue.