ALPHA-MYOSIN

FUNCTION:
Myosin, the major contractile protein, converts chemical energy into mechanical force through hydrolysis of ATP. α-Myosin is almost exclusively expressed in cardiac tissue.

ANTIBODIES APPEAR:
- Autoimmune Myocarditis
- Dilated Cardiomyopathy
- Myasthenia Gravis
- Rheumatic Heart Disease

KNOWN CROSS-REACTIONS:
- Group A Streptococcus pyogenes
- Striated Muscle

CLINICAL SIGNIFICANCE:
As suggested in an experimental assay, in which anti-myosin antibodies caused an increased calcium uptake and retention, leading to myocyte dysfunction and possibly cell death, anti-myosin antibodies may be detrimental to cardiac function. However, elevated antibodies to α-Myosin have been found in dilated cardiomyopathy pedigrees with both familial and non-familial disease, and thus do not support the concept of playing a primary pathogenic role. These antibodies are more likely to be used as a marker for predisposition. A high percentage of asymptomatic relatives of patients with dilated cardiomyopathy also have elevated antibodies to myosin-alpha and should be monitored for early signs of autoimmune myocarditis. Due to cross reactivity, patients with Rheumatic Fever or Myasthenia Gravis should be assessed for autoimmune myocarditis.

References: