Myasthenia gravis sub-groups by auto-antibody			
Main auto-antibody	**Clinical presentation**	**Thymic histology**	**Presence of additional autoantibodies**
AChR-MG (acetylcholine receptor)	Early onset (<50yo), F>M, ocular frequently → generalized Late onset (>50yo), M>F, generalized Thymoma-associated, onset at any age though more often >50yo, generalized, severe disease	Hyperplasia Atrophy Thymoma	Rare Common (anti-titin, anti-RyR (ryanodine receptor)) Common (anti-titin, anti-RyR, anti-actin, other muscle proteins)
MuSK-MG (muscle-specific kinase)	Usually <50yo at onset, F>M, generalized, severe disease	Normal (hyperplasia in 23% of patients with MuSK-CBA (cell-based assay) antibody)	Rare
LRP4-MG (lipoprotein receptor-related protein 4)	Any age at onset, F>M, ocular or generalized, mild symptoms; severe in LRP4/AChR-positive or LRP4/MuSK-positive patients	Normal (hyperplasia in 31% of single positive patients and 67% of LRP4/AChR-positive patients; absence of thymoma	Rare (anti-AChR or anti-MuSK)

Table 1. Myasthenia gravis sub-groups by type of auto-antibody, each with different clinical, thymic, and other autoantibody associations (adapted from Mantegazza)