

Table S1: Characteristics of the early RA autoantigens

	Protein names	Gene names	Functions	Biological process	Subcellular location	Domain	Sequence similarities
WIBG	WITHIN BGCN homolog (Drosophila) Partner of Y14 and mago Protein wibg homolog	WIBG PYM	Ribonucleoprotein	Disassembly of exon junction complexes Translation regulation Nuclear cytoplasmic shuttle	Cytoplasm Nucleus	EIF2A-like region Coiled coil	Wibg family
GABARAPL2	Gamma-aminobutyric acid receptor-associated protein-like 2 GABA(A) receptor-associated protein-like 2 Ganglioside expression factor 2 Short name=GEF-2 General protein transport factor p16 Golgi-associated ATPase enhancer of 16 kDa Short name=GATE-16 MAP1 light chain 3-related protein	GABARAPL2 FLC3A GEF2	ATPase binding GABA receptor binding SNARE binding Beta-tubulin binding Microtubule binding	Autophagy Intra-Golgi vesicle-mediated transport Positive regulation of ATPase activity Protein transport	Golgi apparatus		MAP1 LC3 family
ZNF706	Zinc finger protein 706	ZNF706 HSPC038 PNAS-113	Zinc ion binding	Transcriptional activation or inhibition	Intracellular	C2H2-type zinc finger DNA binding domain	