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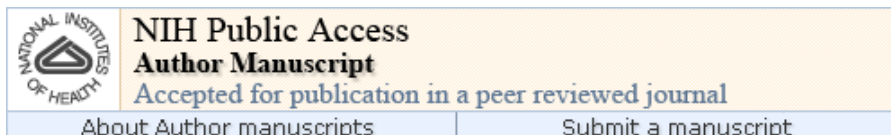
**Table 1**

Examples of Human Autoimmune Diseases with Possible Molecular Mimicry as a Mechanism

Human Diseases	Target	T Cells/Ab	Human Antigen Mimicked	Organism	Ref(s)
Spondyloarthropathies (SpAs), anklosing spondylitis, psoriatic arthritis, reactive arthritis and undifferentiated SpA	Lumbar spine and sacroiliac joints	Abs	HLA-B27	<i>Klebsiella pneumoniae</i> , <i>Shigella</i> , <i>Chlamydia trachomatis</i> and other gram-negative bacteria	[71–73]
Antiphospholipid syndrome	Fetal loss and thromboembolic phenomena	Abs	β <sub>2</sub> -glycoprotein I	Bacteria, viruses, yeast, and tetanus toxin	[74]
Autoimmune chronic gastritis (AIG) (gastric atrophy, hypochloridria and pernicious anemia)	Stomach epithelium cells or parietal cell canaliculi	T cell/Abs	H <sup>+</sup> , K <sup>+</sup> -ATPase, parietal cell canaliculi	<i>Helicobacter pylori</i>	[75]
Cogan's syndrome	Eye and ear	Abs	SSA/Ro; (DEP-1/CD148); connexin 26	Reovirus III major core protein lambda 1	[76]
Autoimmune thrombocytopenic purpura	Platelet	Abs	Platelet; platelet-associated immunoglobulin G (PAIgG)	<i>Helicobacter pylori</i>	[77]
Behçet's disease	Eyes, skin, oral cavity, joints, genital system, CNS and blood vessels	T cell	HSP 60, HSP 65, HSP70, alpha-tropomyosin, S-antigens	Mycobacterial HSP, <i>Plasmodium falciparum</i>	[78–82]
Cardiomyopathy (myocarditis)	Heart	T cell/Abs	Cardiac myosin	Coxsackie virus, group A streptococci, chlamydia or <i>Trypanosoma cruzi</i>	[83]
Celiac sprue (celiac disease)	Small intestine	T cell	Transglutaminase	Gliadin (gluten), perinatal infections, adenovirus 12, hepatitis C virus (HCV)	[84, 85]
Chagas disease	Heart	T cell	Cardiac myosin	<i>Trypanosoma cruzi</i> B13 protein	[86, 87]

Chronic inflammatory demyelinating polyneuropathy	Schwann cells	Abs	Monosialoganglioside GM2	Melanoma, <i>Campylobacter jejuni</i>	[88, 89]
Crohn's disease	Gastrointestinal tract	T cell	Unknown	Gram-positive bacterial peptidoglycans	[90]
Dermatomyositis (juvenile)	Skin and muscle	T cell	Skeletal myosin	<i>Streptococcus pyogenes</i> M5 protein	[91]
Essential mixed cryoglobulinemia	B cell	Abs	IgG-Fc	HCV	[92]
Guillain-Barré syndrome	Gangliosides and peripheral nerve	Abs	Peripheral nerve	<i>Campylobacter jejuni</i>	[93]
Insulin dependent diabetes (type I)	Pancreas	T cell	Islet antigens (GAD 65, proinsulin carboxypeptidase H)	Coxsackie B virus, rubella, rotavirus, herpes, rhinovirus, hantavirus, flavivirus and retrovirus	[94–96], reviewed in [97], [98–100]
Systemic lupus erythematosus	Systemic	Abs	60 Kda Ro	Epstein-Barr virus (EBV nuclear antigen-1)	[101]
Multiple sclerosis	Myelin	T cell	Myelin basic protein	EBV, measles and HHV-6	[11, 35, 102]
Primary biliary cirrhosis	Liver (intrahepatic bile ducts)	Abs/B and T cell	PDE2, GP210, human pyruvate dehydrogenase complex-E2 (PDC-E2), HLA-DR	Gram-negative bacterium, <i>Escherichia coli</i> , <i>Helicobacter pylori</i> , <i>Pseudomonas aeruginosa</i> , cytomegalovirus and <i>Haemophilus influenza</i>	[103–107]
Psoriasis	Skin	T cell	Epidermal keratins	<i>Streptococcus pyogenes</i> (streptococcal M protein)	[108]
Rheumatic fever	Heart	Abs/ T cell	Cardiac myosin	M protein (major virulence factor of group A streptococci) and streptococcus carbohydrate epitope GlcNAc	[12, 109–111]
Rasmussen's encephalitis	CNS	Abs	Antiglutamate receptor (GLUR3)	Microorganisms	[112, 113]
Acute disseminating encephalomyelitis	CNS	T cell	Myelin basic protein	Measles virus, rabies vaccine, HHV-6, coronavirus, influenza virus hemagglutinin, EBV, Semliki Forest virus	[114, 115], reviewed in [116]
Myasthenia gravis	CNS	Abs	Acetylcholine receptor, neurofilaments	Herpes simplex virus type 1 gpD	[117]
Graft vs host disease	Solid organ transplant	Abs	HLA-DR, CD 13 (aminopeptidase N)	Human cytomegalovirus (hCMV)	[118, 119]
Herpes stromal keratitis	Eye	T cell	Corneal tissue	Herpes simplex virus- type 1	[120]

Lyme arthritis	Joints	Abs	Human leukocyte function-associated antigen-1 (hLFA-1)	<i>Borrelia burgdorferi</i>	[121]
Sydenham's chorea	Brain	Abs	$\beta$ -tubulin, GlcNAc, calcium/calmodulin-dependent protein (CaM)	Group A streptococcus	[122, 123]
Autoimmune uveitis	Eye and pineal gland in the brain	T cell	S-Antigen, interphotoreceptor binding protein (IRBP)	Viruses	[124]
Scleroderma	Endothelial cells	Abs	NAG-2 (tetraspan novel antigen-2)	hCMV UL94 protein	[125, 126]
Sjögren's syndrome	Systemic	Abs	Ro60 kD	Coxsackie virus	[127]
Stiff-person syndrome	Neurons and $\beta$ cells	T cell/Abs	GAD65	hCMV (pUL57)	[128, 129]
Peptic/gastric ulcer	Gastric mucosa	Abs	Gastric mucosa antigens (Lewis antigens)	<i>Helicobacter pylori</i>	[130]



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## Table 2

Examples of Murine Models of Autoimmune Diseases Where Molecular Mimicry is Proposed as a Mechanism

Human Autoimmune Disease	Mouse Strain	Initiating Agent(s)	Ref(s)
Behçet's disease	ICR mice	HSV type 1 (F strain) inoculation in ear lobe	[131]
Myocarditis	BALB/c	Mouse cytomegalovirus (MCMV)	[132]
Insulin dependent diabetes (type I)	Tg mice expressing LCMV protein in pancreas	Pichinde virus infection of mice	[133]
Guillain-Barré syndrome	BALB/c	lipooligosaccharide of <i>Brucella melitensis</i>	[134]
Autoimmune hepatitis type 2	FVB	infection with recombinant adenovirus encoding human cytochrome CYP2D6	[135, 136]
Herpes stromal keratitis	C.AL-20	HSV-1	[120, 137]
Autoimmune uveitis	C3H/HeN	<i>Salmonella typhimurium</i>	[138, 139]
Sjögren's syndrome	C57BL/6; [B6]+/+; Fas-deficient B6-lpr/lpr; TNFR1-deficient B6; and TNFR1-deficient lpr/lpr)	MCMV	[140]
Multiple sclerosis	SJL/J C57BL/6	Theiler's murine encephalomyelitis virus Semliki Forest virus infection	[141, 142]