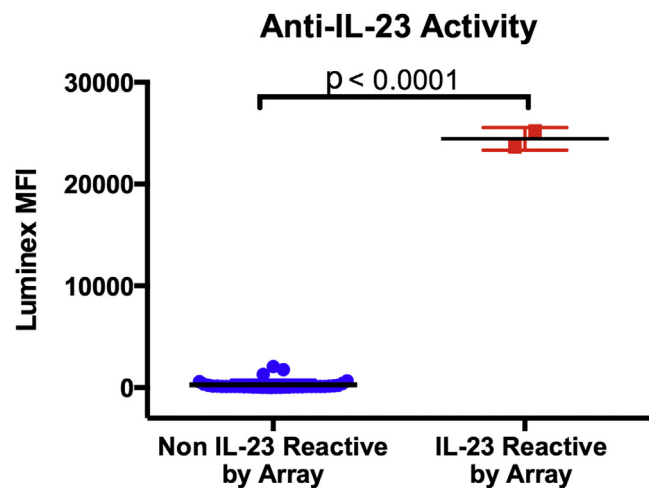


Autoantigen	Vendor	Catalog #	Notes
Actin	Sigma	A2522	From rabbit muscle
alpha actinin	Sigma	A9776	Chicken gizzard
BPI	The Binding Site/Arotec	ATB01-02	Bactericidal/permeability increasing protein, from human neutrophils
C1q	Biodesign	A90150H	Human serum
CENPA	Diarect	16901	Recombinant human
CENP B	Diarect	12501	Recombinant human
dsDNA (plasmid)	Diarect	12301	Double-stranded DNA 3.4 kb plasmid, from E. coli
dsDNA (salmon)	Sigma	D1626	Double-stranded DNA, from salmon
GBM-dissoc	Diarect	16801	Glomerular basement membrane, dissociated, human alpha-3 chain of collagen IV, recombinant human
ssDNA	Sigma	D7656	Single-stranded DNA (587-831 nt), from salmon
GBM-undissoc	Diarect	15901	Glomerular basement membrane, undissociated, human alpha-3 chain of collagen IV, recombinant human
Grp78	Assay Designs/Stressgen	SPP-765F	Immunoglobulin heavy chain binding protein (BiP), recombinant hamster
HIS 1000 (whole hist)	Immunovision	His-1000	Whole histones, from chicken red blood cells
HIS 1001	Immunovision	His-1001	Histone H1, from bovine tissue
HIS 1002	Immunovision	His-1002	Histone H1, from bovine thymus
HIS 1003	Immunovision	His-1003	Histone H2b, from bovine tissue
HIS 1004	Immunovision	His-1004	Histone H3 and H4, from bovine tissue
Hsp60	Assay Designs/Stressgen	NSP-540	Heat shock protein 60kDa, recombinant human
Hsp25	Assay Designs/Stressgen	NSP-510F	Heat shock protein 25kDa, recombinant murine
IF	Diarect	16701	Intrinsic factor, recombinant human
Jo-1	Diarect	12900	Histidyl-tRNA synthetase, recombinant human
Ku	Diarect	17300	p70/p80, recombinant human
La/SS-B	Diarect	12800	Recombinant human
LC1	Diarect	13700	Formiminotransferase Cyclodeaminase (liver cytosol type 1 antigen), recombinant human
mda ldl	Academy Bio-medical C	20P-MD-L110	Malondialdehyde modified human low density lipoprotein
HDL	Academy Bio-medical	80P-HD101	
Mi-2	Diarect	18100	Mi-2protein, recombinant human
MPO -BD	Biodesign	A3C181H	Human neutrophils
PCNA	Diarect	15400	Proliferating cell nuclear antigen, recombinant human
PDH	Sigma	P7032	Pyruvate dehydrogenase, from porcine heart
PL-12	Diarect	15701	Alanyl-tRNA synthetase, recombinant human
PL-7	Diarect	15601	Threonyl-tRNA synthetase, recombinant human
PR3	ImmunoVision	PR3-3000	Proteinase 3 antigen (cANCA antigen), from human promyelocytic cell line
ribo p	Diarect	14101	Ribosomal Phosphoprotein P0, recombinant human
Ro/SS-A 52 kDa	Diarect	12701	Ro-52 ribonucleoprotein, recombinant human
Ro/SS-A 60 kDa	Diarect	17401	Ro-60 ribonucleoprotein, recombinant human
bRo/SS-A 60kDa	Diarect	15501	Ro-60 Ribonucleoprotein, from calf thymus
Scl-70 (full)	Diarect	12401	DNA topoisomerase I full-length 100kDa form, recombinant human
Scl-70 (trunc)	Diarect	14501	DNA topoisomerase I truncated 70kDa processed antigenic form, recombinant human
SMA 3000 (Smith)	ImmunoVision	SMA-3000	Smith antigen (small nuclear ribonucleoproteins B, B', D), from bovine spleen or thymus
SRC 3000 (Sm/RRP)	ImmunoVision	SRC-3000	Small nuclear ribonucleoprotein complex (A, B, B', C, D, E/F, G), from calf spleen, thymus and/or rabbit thymus
SRP54	SurModics	A18401	Signal recognition particle 54, recombinant human
TG	Diarect	12201	Thyroglobulin, from human thyroid glands
TPO	Diarect	12101	Thyroperoxidase, recombinant human
U-snRNP-BB'	Diarect	13301	Small nuclear ribonucleoprotein 88', recombinant human
U1-A	Diarect	13101	Small nuclear ribonucleoprotein A, recombinant human
U1-C	Diarect	13201	Small nuclear ribonucleoprotein C, recombinant human
U1-snRNP68	Diarect	13001	Small nuclear ribonucleoprotein 68 (U1-70), recombinant human

FIG E1. Protein microarray composition. Purified biomolecules, including cytokines, chemokines, growth factors, and autoantigens, are listed with their respective vendors.

Disease Code	Number of Patients with Finding
Pulmonary alveolar proteinosis	11
Candidiasis	6
Healthy controls	6
APS-1	5
Hypothyroidism	5
Suspected pulmonary alveolar proteinosis	4
TNF-inhibitor treated	3
Undiagnosed immunodeficiency	3
APS-1 phenotype with no AIRE mutation on sequencing	2
Rheumatoid arthritis	2
Non-tuberculous mycobacterial disease	2
T-cell cytopenia	2
Multi-organ autoimmunity	2
Thymoma	2
Acanthosis	1
Bronchiectasis	1
Cholangitis	1
Colitis	1
Chronic salmonella	1
Cutaneous lupus	1
Common variable immunodeficiency	1
Granulomatous lung disease	1
Good's syndrome	1
HHV6 infection	1
Hyperkeratosis	1
Interferon gamma treated	1
IL-12 receptor deficiency	1
Klebsiella infection	1
Late onset progressive multifocal leukoencephalopathy	1
Systemic lupus erythematosus	1
Mucor mycosis	1
Pulmonary fibrosis	1
Pneumococcal infection	1
Recurrent tuberculosis	1
Shingles and persistent warts	1
Systemic sarcoidosis	1

FIG E2. Clinical characteristics of the cohort. The clinical diseases and phenotypes of patients and healthy control subjects are listed. Patients with more than 1 disease or disorder are listed under each applicable category.



1453 **FIG E3.** IL-23 ACAA validation. IL-23 binding was also measured by means
1454 of a Luminex analyzer, as described in the Methods section, to confirm IL-23
1455 reactivity observed by using a cytokine microarray. MFI of samples 092B
1456 and 562B were compared with all others by using the unpaired *t* test.

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