

Table S1. Patient clinical data
SoJIA patients with systemic symptoms

Demographics					Clinical symptoms				Medication					Meta-analysis	Healthy vs SOJIA prediction
Patient	Date	Age	Ethnicity	Sex	Fever	Arthritis	Disease dx	Duration of systemic symptoms (fever)	Steroids PO	Steroids IV	Methotrexate	Infliximab /enbrel	Anakinra		
sys02	May-02	11	W	F	yes	Yes	Jan-95	3 months	yes	no	yes	yes	no	Training	Training
sys12	Jun-02	4	W	F	yes	Yes	Mar-01	1 week	yes	no	yes	no	no	Test	Test
sys12	Feb-04	6	W	F	yes	Yes	Mar-01	<7 days	yes	no	yes	no	no	Training	Training
sys15	Jul-02	2	H	F	yes	Yes	Aug-01	15 days	yes	yes	yes	yes	no	Training	Test
sys16	Jul-02	4	H	F	yes	Yes	Jul-02	2 months	no	no	no	no	no	Training	Training
sys17	May-05	10	W	M	yes	Yes	Sep-99	4 months	no	no	yes	yes	no	Test	-
sys21	Nov-02	4	A	F	yes	Yes	Dec-00	<7 days	yes	no	yes	no	no	Training	Test
sys21	Apr-04	6	A	F	yes	Yes	Dec-00	4 months	yes	yes	yes	no	no	Test	-
sys25	Nov-02	13	W	F	yes	Yes	Sep-92	3 months	no	no	yes	no	no	Test	-
sys25	May-03	14	W	F	yes	Yes	Sep-02	1 month	yes	yes	yes	no	no	Test	-
sys32	Nov-02	9	W	F	yes	Yes	Jul-00	9 months	yes	no	no	no	no	Training	Test
sys33	Sep-02	17	H	F	yes	Yes	Jul-00	1 month	yes	yes	yes	no	no	Training	Training
sys39	Nov-02	5	H	F	yes	No	Mar-00	1 year 8 months	yes	yes	no	no	no	Training	Training
sys51	Feb-03	2	W	F	yes	Yes	Sep-02	<7 days	yes	yes	no	no	no	Training	Test
sys51	Jan-04	3	W	F	yes	Yes	Sep-02	3 weeks	yes	no	yes	no	no	Test	-
sys52	May-03	14	W	F	yes	Yes	Apr-03	2 months	no	no	no	no	no	Training	Test
sys53	May-03	9	W	F	yes	Yes	Mar-03	3 months	no	no	no	no	no	Training	Test
sys56	Feb-04	4	H	F	yes	Yes	Feb-04	<7 days	yes	yes	yes	no	no	Training	Test
sys62	Mar-04	9	H	F	yes	No	Jun-98	<7 days	yes	yes	no	no	no	Training	Test
sys68	Jan-04	6	H	F	yes	Yes	Dec-03	1 month	no	no	no	no	no	Training	Training
sys78	Oct-04	3	W	M	yes	No	Sep-04	1 month	no	no	no	no	no	Training	Training
sys81	Oct-02	6	AA	M	yes	Yes	Oct-02	10 days	no	no	no	no	no	Training	Training
sys99	Jul-06	5	W	M	yes	Yes	Jul-06	1 month	no	no	no	no	no	Test	-

Rule out SoJIA patients (diagnosis not confirmed upon follow-up)

Demographics					Clinical symptoms				Medication					Meta-analysis	Healthy vs SOJIA prediction
Patient	Date	Age	Ethnicity	Sex	Fever	Arthritis	Disease dx	Duration of systemic symptoms (fever)	Steroids PO	Steroids IV	Methotrexate	Infliximab /enbrel	Anakinra		
Sys85	Apr-05	8	AA	F	yes	no	Apr-05	3 weeks	no	no	no	no	no	Training	Training
Sys91	Jan-06	4	W	F	yes	no	Jan-06	2 weeks	no	no	no	no	no	Test	Test

SoJIA patients with no systemic symptoms but active arthritis at the time of blood sample extraction

Demographics			Clinical symptoms					Medication				
Patient	Date	Age	Patient	Date	Fever	Arthritis	Disease dx	Steroids PO	Steroids IV	Methotrexate	Infliximab /enbrel	Anakinra
sys01	Aug-02	17	W	F	no	yes	Jan-87	no	no	no	no	no
sys06	May-02	5	As	F	no	yes	Nov-00	yes	yes	yes	yes	no
sys13	Sep-04	4	AA	F	no	yes	Jun-01	yes	yes	yes	no	no
sys19	May-02	3	W	F	no	yes	Oct-00	yes	yes	yes	yes	no
sys20	Jul-02	9	W	F	no	yes	Jan-02	yes	yes	yes	yes	no
sys24	Jul-02	5	W	M	no	yes	Oct-00	yes	yes	no	yes	no
sys27	Nov-02	8	AA	M	no	yes	Apr-99	yes	yes	yes	no	no
sys28	Aug-02	2	W	F	no	yes	Nov-01	yes	yes	yes	no	no
sys40	Jun-02	13	W	M	no	yes	Nov-91	no	no	no	yes	no
sys70	May-02	4	AS	M	no	yes	Sep-01	no	no	no	no	no
sys74	Nov-04	10	H	M	no	yes	Sep-98	no	no	yes	no	no

Clinically inactive SoJIA patients

Demographics					Clinical symptoms			Medication				
Patient	Date	Age	Ethnicity	Sex	Fever	Arthritis	Disease dx	Steroids PO	Steroids IV	Methotrexate	Infliximab/enbrel	Anakinra
sys13	Jun-02	2	AA	F	no	no	Jun-01	yes	no	no	no	no
sys14	Jun-02	13	W	M	no	no	May-97	yes	yes	yes	no	no
sys22	May-02	5	W	F	no	no	Feb-02	yes	yes	no	no	no
sys23	Jul-02	7	W	M	no	no	Mar-98	no	no	yes	no	no
sys29	Aug-02	15	AA	F	no	no	Mar-00	yes	no	yes	no	no
sys31	Sep-02	5	W	F	no	no	Mar-02	yes	yes	no	no	no
sys35	Sep-02	12	W	F	no	no	Jun-96	yes	no	yes	no	no
sys37	Nov-02	8	W	M	no	no	May-02	yes	no	no	no	no
sys42	Nov-02	11	W	M	no	no	May-96	no	no	no	no	no
sys44	Nov-02	13	AA	F	no	no	Nov-98	no	no	no	no	no
sys47	Mar-04	10	H	M	no	no	May-01	no	no	no	no	no
sys49	Jun-02	11	W	F	no	no	Mar-95	yes	no	yes	no	no
sys68	Nov-04	6	H	F	no	no	Dec-03	yes	no	no	no	no
sys69	Feb-04	16	AA	M	no	no	Aug-02	yes	no	no	no	no

SoJIA patients on Anakinra

Demographics					Clinical symptoms			Medication					
Patient	Date	Age	Ethnicity	Sex	Fever	Arthritis	Disease dx	Steroids PO	Steroids IV	Methotrexate	Infliximab/enbrel	Anakinra	Anakinra since
sys02	Sep-04	13	W	F	yes	yes	Jan-95	yes	no	yes	no	3 mg/k	6 months
sys12	Jul-04	6	W	F	no	yes	Mar-01	yes	no	no	no	2 mg/kg	5 months
sys15	Apr-05	4	H	F	no	no	Aug-01	yes	no	no	no	4 mg/kg	2 years 1m
sys17	Aug-05	10	W	M	no	yes	Sep-99	no	no	no	no	2.5 mg/kg	2 months
sys21	Nov-04	6	A	F	no	no	Dec-00	yes	no	yes	no	4 mg/kg	6 months
sys25	Sep-04	15	W	F	no	yes	Sep-02	yes	no	yes	no	2 mg/kg	5 months
sys33	Sep-05	19	H	F	no	no	Sep-00	no	no	no	no	2 mg/kg	2 years
sys78	Dec-04	5	W	M	no	no	Sep-04	no	no	no	no	2 mg/kg	2 months

PAPA syndrome patients:

Demographics				Clinical symptoms		Medication
Sample	Age	Ethnicity	Sex	Arthritis	Skin Involvement	
FRA1-1	13	White	M	No	Yes	Remicade, Steroids IV, Methotrexate
FRA1-4	44	White	M	Yes	No	Celebrex
FRA1-8	20	White	M	No	No	Enbrel, Celebrex
FRA1-10	11	White	F	No	No	Methotrexate, Steroids PO
FRA1-13	68	White	F	No	No	None
PPA1-4	40	White	M	No	Yes	Steroids PO

S. aureus patients

Sample	Age	Ethnicity	Sex	Clinical disease	Medication	Meta-analysis
INF005	10	Hispanic	M	Osteomyelitis	Cefazolin	Training
INF024	3	Black	M	Osteomyelitis	Vancomycin, Rifampin	Training
INF030	15	Black	M	Bacteremia	Vancomycin	Test
INF040	12	White	M	Osteomyelitis, Bacteremia	Cefazolin	Training
INF043	7	Black	M	Hip abscess, Bacteremia	Vancomycin, Rifampin	Training
INF062	2	White	M	Osteomyelitis	Clindamycin	Test
INF066	3 m	Black	F	Pneumonia	Vancomycin, Gentamicin	Test
INF067	7	White	F	Osteomyelitis, Bacteremia	Vancomycin, Rifampin	Training
INF069	9 m	Hispanic	M	Lung abscess	Vancomycin, Cefazolin	Test
INF070	15m	White	F	Abscess	Vancomycin	Test
INF084	18	Black	F	Abscess	Cefazolin	Training
INF088	11m	Hispanic	M	Osteomyelitis, bacteremia	Vancomycin	Test
INF089	4m	Black	F	Abscess	Clindamycin	Test
INF090	8m	Black	M	Septic arthritis	Oxacillin	Test
INF150	9	Black	F	Osteomyelitis, Bacteremia	Vancomycin, Rifampin	Training
INF179	12	White	M	Endocarditis, Bacteremia.	Oxacillin, Gentamicin, Rifampin	Test
INF205	7	Hispanic	M	Pneumonia, Bacteremia	Vancomycin	Training
INF206	1	Hispanic	F	Abscess	Clindamycin	Test
INF208	10	White	F	Osteomyelitis, Bacteremia, pneumonia	Clindamycin, Rifampin, Vancomycin	Training
INF216	10	Hispanic	F	Osteomyelitis, Bacteremia	Vancomycin, Rifampin	Training
INF220	11	Hispanic	M	Osteomyelitis, Bacteremia	Cefazolin, Rifampin	Training
INF221	6	Black	F	Osteomyelitis, Bacteremia	Vancomycin, Rifampin	Training
INF224	10	White	M	Osteomyelitis, Bacteremia	Oxacillin, Rifampin	Training
INF241	10m	Black	F	Pneumonia, Bacteremia	Vancomycin, Rifampin	Test
INF242	13m	Black	M	Abscess, Bacteremia	Clindamycin	Test
INF258	8	White	F	Osteomyelitis, Bacteremia	Cefazolin	Training
INF262	13	Hispanic	M	Abscess, Bacteremia	Clindamycin	Test
INF264	13	Black	M	Septic arthritis	gentamicin, Vancomycin, cefazolin,	Test
INF271	13	Black	M	Osteomyelitis	Clindamycin	Test
INF281	3	White	F	Osteomyelitis	Clindamycin	Training
INF315	3	Hispanic	F	Cellulitis	Vancomycin	Training

***S. pneumoniae* patients**

Sample	Age	Ethnicity	Sex	Clinical disease	Medication	Meta-analysis
INF009	4m	White	M	Abscess	Cefazolin	Training
INF025	2m	Hispanic	M	Meningitis	Ampicillin,Ceftriaxone	Test
INF041	23m	White	F	Pneumonia,Empyema	Ceftriaxone	Training
INF096	16m	Hispanic	M	Pneumonia,Empyema	Ceftriaxone,Azithromycin	Training
INF113	7m	Hispanic	F	Septic arthritis	Ceftriaxone,clindamycin	Training
INF155	3m	Hispanic	M	Meningitis	Ceftriaxone,Vancomycin	Test
INF261	13	White	M	Meningitis	Ceftriaxone,vancomycin	Training
INF265	2	White	F	Empyema	Ceftriaxone,vancomycin	Training
INF268	3	Hispanic	M	Empyema	Ceftriaxone,clindamycin	Training
INF277	16	White	M	Empyema	Ceftriaxone,vancomycin	Training
INF287	3	White	F	Pneumonia,bacteremia	Ceftriaxone,vancomycin	Training
INF289	2	Hispanic	M	Empyema	Ceftriaxone,vancomycin	Training
INF338	1	White	M	Meningitis, bacteremia	Ceftriaxone,vancomycin,Rifampin	Test
INF339	2.5	White	M	Mastoiditis, Sinus thrombosis	Ceftriaxone	Test
INF388	6m	White	M	Meningitis	Ceftriaxone,vancomycin,Rifampin	Test

Influenza A patients

Sample	Age	Ethnicity	Sex	Clinical disease	Medication	Meta-analysis
INF055	11m	Hispanic	M	Respiratory distress	Cefuroxime	Training
INF087	19m	White	F	Fever,Hypoxia	Cefuroxime	Training
INF092	1m	Hispanic	F	Fever	Ampicillin,Ceftriaxone	Test
INF095	4 y	Hispanic	M	Fever	None	Training
INF101	4m	Hispanic	M	Fever,URI	Cefuroxime,Oseltamivir	Test
INF104	17m	Hispanic	M	Seizures, Fever, Respiratory failure	Ceftriaxone	Training
INF105	4 y	Hispanic	F	Fever,Encephalopathy	Ceftriaxone,Aciclovir, Oseltamivir	Training
INF107	1.5m	Asian	M	Fever,Lethargy	Ampicillin,Ceftriaxone	Test
INF108	5m	Hispanic	M	Fever	Ceftriaxone	Test
INF112	1m	Hispanic	M	Fever,URI	Ampicillin,Gentamycin	Test
INF114	18m	Black	F	Respiratory distress,fever	Cefuroxime,Oseltamivir	Training
INF115	20m	White	M	Seizures	Amoxicillin	Training
INF116	2 y	White	M	Fever,URI	Cefuroxime,Clindamycin	Test
INF117	24 m	White	F	Fever	None	Training
INF128	11m	Hispanic	F	Fever,Hypoxia	Cefuroxime	Training
INF132	6m	White	M	Respiratory distress,fever	Oxacillin,Tobramycin	Training
INF259	3m	Hispanic	F	Pneumonia	None	Test
INF266	36 m	White	F	Fever,cough	None	Test

E. coli patients

Sample	Age	Ethnicity	Sex	Clinical disease	Medication	Meta-analysis
INF012	5m	Black	M	Bacteremia	Ceftriaxone	Training
INF013	5m	White	F	UTI	Ceftriaxone	Training
INF031	3m	Hispanic	F	UTI,bacteremia	Gentamicin	Test
INF034	16 y	White	F	Pyelonephritis	Gentamicin	Training
INF048	2m	White	M	UTI	Ampicillin,ceftriaxone	Test
INF057	3m	Black	F	UTI,bacteremia	Gentamicin	Test
INF074	4m	Hispanic	F	UTI,bacteremia	Ceftriaxone	Test
INF082	2m	Hispanic	M	UTI	Ampicillin,ceftriaxone	Test
INF086	3m	Hispanic	M	UTI	Ceftriaxone	Training
INF118	1.5m	White	M	UTI		Test
INF120	1.5m	Hispanic	M	UTI	Ampicillin,ceftriaxone	Test
INF133	2m	Hispanic	M	UTI	Ceftriaxone	Training
INF139	1m	Hispanic	M	UTI	Ampicillin,ceftriaxone	Test
INF148	8 y	Hispanic	F	UTI	Ceftriaxone	Training
INF151	1.5m	Hispanic	M	UTI	Ampicillin,gentamicin	Test
INF152	2.5m	Black	M	Bacteremia,meningitis	Ceftriaxone,gentamicin	Test
INF154	2m	Hispanic	M	UTI	Ceftriaxone	Training
INF156	3 m	Hispanic	M	UTI		Training
INF161	1.7m	Hispanic	M	UTI	Ampicillin,ceftriaxone	Test
INF168	3m	White	F	UTI	Ceftriaxone	Test
INF171	3m	Hispanic	F	UTI	Ceftriaxone	Test
INF175	0.5m	Hispanic	F	UTI, bacteremia	Ceftriaxone	Test
INF180	1m	Hispanic	M	UTI	Ampicillin,gentamicin	Test
INF183	1.5m	Hispanic	M	UTI	Ampicillin,gentamicin,ceftriaxone	Test
INF184	0.5m	White	F	UTI, bacteremia	Ampicillin,gentamicin	Test
INF188	1.5m	White	M	UTI	Ampicillin,gentamicin,ceftriaxone	Test
INF197	1.25m	White	M	UTI	Ampicillin,gentamicin	Test
INF219	5m	White	F	UTI, bacteremia	Ceftriaxone	Training
INF222	3m	Hispanic	F	UTI, bacteremia	Ceftriaxone,gentamicin	Test
INF229	4m	Hispanic	F	UTI, bacteremia	Ceftriaxone	Training

SLE patients

Sample	Age	Ethnicity	Sex	SLEDAI	Medication	Meta-analysis
SLE36	16	Hispanic	F	20	None	Training
SLE61	16	Black	M	10	Steroids PO, Cellcept	Test
SLE149	15	Other	M	20	None	Test
SLE56	17	Black	F	20	Steroids PO and IV, Cytoxan	Test
SLE83	8	Black	F	2	Steroids PO	Test
SLE35	16	Hispanic	M	8	Steroids PO and IV and Cellcept	Test
SLE88	13	White	F	18	Steroids PO and IV, Cytoxan	Training
SLE27	13	Black	F	14	Steroids PO and Cytoxan	Test
SLE100	13	Hispanic	F	4	Steroids PO and IV	Training
SLE105	12	Hispanic	F	16	Steroids PO, Cellcept	Training
SLE106	14	Black	F	4	Steroids PO	Test
SLE108	17	White	F	10	None	Test
SLE111	15	Hispanic	F	18	None	Test
SLE113	13	Asian	F	24	None	Training
SLE114	14	Black	F	14	None	Training
SLE121	12	Hispanic	F	10	Steroids PO	Training
SLE20	12	Black	F	16	Steroids PO, Cellcept	Test
SLE31	8	Hispanic	F	8	None	Training
SLE43	15	Hispanic	F	12	Steroids PO, Cytoxan	Test
SLE45	9	Black	F	16	Steroids PO, Cytoxan	Training
SLE50	15	Black	F	2	None	Test
SLE51	13	Hispanic	F	11	None	Training
SLE53	17	Hispanic	F	2	Steroids PO	Test
SLE57	12	Black	M	10	Steroids PO, Steroids IV	Training
SLE60	12	Hispanic	F	4	Steroids PO, Steroids IV	Training
SLE62	14	Hispanic	F	2	Steroids PO, Steroids IV	Test
SLE67	16	White	F	2	Imuran	Test
SLE74	17	Black	F	6	Steroids PO	Test
SLE75	17	Hispanic	F	6	None	Test
SLE79	10	Hispanic	F	8	None	Training
SLE82	17	Black	F	8	Steroids PO	Test
SLE85	16	Black	F	12	None	Test
SLE90	11	Hispanic	F	4	Steroids PO, Steroids IV	Training
SLE91	10	Asian	F	12	Steroids PO	Training
SLE96	16	Hispanic	F	4	Steroids PO	Test
SLE65	10	Hispanic	F	8	Steroids PO, Steroids IV, Cytoxan	Test
SLE21	10	Hispanic	F	12	None	Test
SLE17	14	Asian	M	2	Steroids PO	Training

Healthy donors

Sample	Age	Ethnicity	Sex	SOJIA vs H	Ecoli vs H	Flu vs H	Staph vs H	Strep vs H	SLE vs H	Analysis of significance	Healthy vs SOJIA prediction
H46	5	White	F	yes	no	no	no	no	yes	Training	Training
H27	6	White	F	yes	no	no	no	no	yes	Training	Training
H36	7	White	F	yes	no	no	no	no	yes	Training	Training
H37	8	White	F	yes	no	no	no	no	yes	Training	Training
H148	8	White	F	yes	no	no	no	no	yes	Training	Training
H01	8	Hispanic	M	yes	no	no	no	no	yes	Training	Training
H42	9	Hispanic	M	yes	no	no	no	no	yes	Training	Test
H30	10	Hispanic	F	yes	no	no	no	no	yes	Training	Test
H04	10	White	F	no	no	no	no	no	no	Test	Test
H28	11	Hispanic	F	no	no	no	no	no	no	Test	Test
H45	12	AA	F	no	no	no	no	no	no	Test	Test
H149	12	Hispanic	M	yes	no	no	no	no	yes	Training	Test
H02	13	Hispanic	F	no	no	no	no	no	no	Test	Test
H150	13	White	M	no	no	no	no	no	no	Test	Training
H03	14	White	M	yes	no	no	no	no	yes	Training	Training
H98	16	White	F	no	no	no	no	no	no	Training	Test
H122	14	White	F	no	no	no	no	no	no	Test	NA
H152	15	Hispanic	F	no	no	no	no	no	no	Test	NA
H166	14	Hispanic	F	no	no	no	no	no	no	Test	NA
H176	15	White	M	no	no	no	no	no	no	Test	NA
H178	17	White	F	no	no	no	no	no	no	Test	NA
INF45	4	Other	F	no	no	yes	no	yes	no	Training	NA
INF11N	4	Asian	F	no	no	yes	yes	no	no	Training	NA
INF12N	1.83	White	M	no	yes	yes	no	yes	no	Training	NA
INF19N	0.25	Hispanic	M	no	yes	yes	no	yes	no	Training	NA
INF20N	0.83	Hispanic	M	no	yes	yes	no	no	no	Training	NA
INF23N	7	Hispanic	F	no	yes	no	yes	no	no	Training	NA
INF24N	3	White	M	no	no	no	yes	no	no	Training	NA
INF25N	0.91	Hispanic	F	no	yes	yes	no	no	no	Training	NA
INF26N	7	Asian	F	no	no	no	yes	no	no	Training	NA
INF27N	0.83	White	M	no	yes	no	no	yes	no	Training	NA
INF3N	6	Hispanic	M	no	no	no	yes	no	no	Training	NA
INF 7N	1.58	Asian	F	no	yes	yes	no	yes	no	Training	NA
INF 8N	10	Asian	M	no	no	no	yes	no	no	Training	NA
INF204	2	White	M	no	no	no	no	yes	no	Training	NA
INF294	12	AA	F	no	no	no	yes	yes	no	Training	NA
INF300	17	White	M	no	yes	yes	yes	yes	no	Training	NA
INF301	8.2	White	M	no	no	no	yes	no	no	Training	NA
INF303	6.3	White	F	no	no	no	yes	no	no	Training	NA