

Immunodeficiency (T&B Lymphocyte Subsets)

Contact on 0161 276 6440 to discuss extended panels for investigation of Primary Immunodeficiency

General information

These tests are most frequently done in patients who are suspected of having an underlying immunodeficiency or are receiving immunosuppressive drugs. For example, cyclosporine reduces T cell numbers, whilst Rituximab reduces B cell numbers.

The relevant tests required will be specified for each individual case.

Specimen transport: Samples should be received by the lab within 24 hours of venepuncture. Maintain samples at room temp.

Repeat frequency: At significant change of clinical symptoms

Special precautions: None

Laboratory information

Normal reference range: (95% confidence interval)

CD marker	Age	Minimum %	Maximum %	Minimum cells/mm3	Maximum cells/mm3
CD3+	Neonates	28	76	600	5000
"	1wk - 2mo	60	85	2300	7000
"	2-5 mo	48	75	2300	6500
"	5-9 mo	50	77	2400	6900
"	9-15 mo	54	76	1600	6700
"	15-24 mo	39	73	1400	8000
"	2-5 y	43	76	900	4500
"	5-10 y	55	78	700	4200
"	10-16 y	52	78	800	3500
"	Adults	58	86	700	2100
CD3+CD4+	Neonates	17	52	400	3500
"	1wk - 2mo	41	68	1700	5300
"	2-5 mo	33	58	1500	5000
"	5-9 mo	33	58	1400	5100

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"	9-15 mo	31	54	1000	4600
"	15-24 mo	25	50	900	5500
"	2-5 y	23	48	500	2400
"	5-10 y	27	53	300	2000
"	10-16 y	25	48	400	2100
"	Adults	31	59	300	1400
CD3+CD8+	Neonates	10	41	200	1900
"	1wk - 2mo	9	23	400	1700
"	2-5 mo	11	25	500	1600
"	5-9 mo	13	26	600	2200
"	9-15 mo	12	28	400	2100
"	15-24 mo	11	32	400	2300
"	2-5 y	14	33	300	1600
"	5-10 y	19	34	300	1800
"	10-16 y	9	35	200	1200
"	Adults	12	36	200	900
T4:T8 Ratio	Adults	0.92	3.72	N/A	N/A
CD19+	Neonates	5	22	40	1100
"	1wk - 2mo	4	26	600	1900
"	2-5 mo	14	39	600	3000
"	5-9 mo	13	35	700	2500
"	9-15 mo	15	39	600	2700
"	15-24 mo	17	41	600	3100
"	2-5 y	14	44	200	2100
"	5-10 y	10	31	200	1600
"	10-16 y	8	24	200	600
"	Adults	3	25	100	500
CD3-CD16/56+	Neonates	6	58	100	1900
"	1wk - 2mo	3	23	200	1400
"	2-5 mo	2	14	100	1300
"	5-9 mo	2	13	100	1000
"	9-15 mo	3	17	200	1200

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"	15-24 mo	3	16	100	1400
"	2-5 y	4	23	100	1000
"	5-10 y	4	26	90	900
"	10-16 y	6	27	70	1200
"	Adults	1	19	90	600

Paediatric reference ranges are from Comans-Bitter WM, et al, "Immunophenotyping of Blood Lymphocytes in Childhood," J Paediatrics, 1997, 130:388-393

Volume and sample type: EDTA (4ml) blood

Method: Flow Cytometry

Participation in EQA scheme: UK NEQAS LI Immune Monitoring

Turnaround time (calendar days from sample receipt to authorised result): Median - 2

Clinical information

Indications for the test: Suspected cellular immunodeficiency

Factors affecting the test: Age (see normal ranges in tables). Acute infection and immunosuppressive drugs will alter T and B lymphocyte numbers.

(Last updated August 2023)