

## 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/mm <sup>3</sup>	Maximum cells/mm <sup>3</sup>
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 (7mls) 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 February 2022)**