

ArminLabs GmbH - Zirbelstr.58 2nd floor, 86154 Augsburg, Germany

Patient: Graham, Dianne F

Date of birth: 06/03/1969 Date of Reception: 07/21/2016 Date of Report: 07/23/2016 Barcode-ID: 839169424 Physician: AONM

Material: CPDA, Heparin, EDTA, Serum

FINAL REPORT

Analysis		Result	Units	Reference Range
Blood count				
Leucocytes		4.44	Gpt/l	4.00-10.00
Erythrocytes		4.22	Gpt/l	4.00-5.00
Hemoglobin		12.6	g/dl	12.0-16.0
Hematocrit		44.6	%	37.0-47.0
MCV	+	106	fl	82-98
MCH		30	pg	27-31
MCHC	-	28	g/dl	32-36
Thrombocytes		254	Gpt/l	140-400
Differential Blood count				
Neutroph. Granulocytes		50.60	%	40.00-75.00
Lymphocytes		32.70	%	17.00-47.00
Monocytes		10.20	%	4.00-12.00
Eosin. Granulocytes		2.30	%	< 7.00
Basoph. Granulocytes	+	2.00	%	< 1.50
Others		2.30	%	
CD 57 Flow Cytometry				
T cells CD3 + (%)	+	85.10	%	62-80
T cells CD3 + (absolute)		1236	/ul	900-1900
NK cells CD56+CD3- (%)		7.65	%	6-29
NK cells CD56+CD3- (absolute)		111	/ul	60-700

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CD 57 + NK-cells (%)	52.81	%	2-77
CD 57 + NK-cells (absolute)	- 59	/ul	100-360

The CD57-cell-count indicates chronic immune suppression, which can be caused by *Borrelia burgdorferi* or other bacteria like *Chlamydia/Mycoplasma pneumoniae*.

Borrelia burgdorferi Elispot

Borrelia burgdorferi Full Antigen	1	SI	< 2
Borrelia b. OSP-Mix (OSPA/OSPC/DbpA)	1	SI	< 2
Borrelia burgdorferi LFA-1	(+) 2	SI	< 2

The results of the EliSpot-Tests are an indication for a weak current cellular activity against *Borrelia burgdorferi*.

Explanation of antigens:

- *Borrelia burgdorferi* Full Antigen: *Borrelia b.* B31-reference strain (*Borrelia b sensu stricto*)
- *Borrelia burgdorferi* Peptide-Mix: OspA from *Borrelia b. sensu stricto*, *Borrelia afzelii*, *Borrelia garinii* + OspC native + DbpA recombinant
- *Borrelia burgdorferi* LFA-1 (Lymphocyte Function Antigen 1): Own body protein + *Borrelia burgdorferi sensu stricto* (shared epitope). Often associated with autoimmune diseases: collagenosis, Rheumatoid Arthritis, vasculitis. If positive or borderline positive look at: ANA, CCP-antibodies, ANCA.

(Native : cultured antigens/ Recombinant: genetic technology produced)

Borrelia burgdorferi antibodies SeraSpot (Microarray)

Borrelia burgdorferi SeraSpot IgG	negative	negative
Borr. SeraSpot VlsE (B.b. afzelii)	negative	negative
Borr. SeraSpot p39 (B.b. afzelii)	negative	negative
Borr.SeraSpot p58 (B.b. garinii)	negative	negative
Borr.SeraSpot p100 (B.b. garinii)	negative	negative

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Borr.SeraSpot OspC (B.b. afzelii)	negative	negative
Borr.SeraSpot OspC (B.b. garinii)	negative	negative
Borr.SeraSpot OspC (B.b. sensu stricto)	negative	negative
Borr.SeraSpot dbpA (B.b. afzelii)	negative	negative
Borr.SeraSpot dbpA (B.b. garinii)	negative	negative
Borr.SeraSpot dbpA (B.b. sensu stricto)	negative	negative
Borrelia burgdorferi SeraSpot IgM	negative	negative
Borr. SeraSpot VlsE (B.b. afzelii)	negative	negative
Borr. SeraSpot p39 (B.b. afzelii)	negative	negative
Borr.SeraSpot p58 (B.b. garinii)	negative	negative
Borr.SeraSpot p100 (B.b. garinii)	negative	negative
Borr.SeraSpot OspC (B.b. afzelii)	negative	negative
Borr.SeraSpot OspC (B.b. garinii)	negative	negative
Borr.SeraSpot OspC (B.b. sensu stricto)	negative	negative
Borr.SeraSpot dbpA (B.b. afzelii)	negative	negative
Borr.SeraSpot dbpA (B.b. garinii)	negative	negative
Borr.SeraSpot dbpA (B.b. sensu stricto)	negative	negative

The specific Borrelia burgdorferi-IgG/IgM-antibodies are no indication for a humoral immune response against Borrelia burgdorferi. Please look at the results of the Borrelia-EliSpot and the CD57-positive NK-cells. Take into consideration the clinical symptoms and the differential diagnosis (co-infections).

Report validated by Armin Schwarzbach MD PhD

Specialist for laboratory medicine