

## Genetische Faktoren, HLAB27, HLA-DR

„Das **humane Leukozytenantigen-System** (HLA-System). HL-Antigene sind eine Gruppe menschlicher Gene, die für die Funktion des Immunsystems zentral sind“. [http://de.wikipedia.org/wiki/Human\\_Leukocyte\\_Antigen](http://de.wikipedia.org/wiki/Human_Leukocyte_Antigen)

"The **human leukocyte antigen system** (HLA - System). HL - antigens are a group of human genes that are central to the function of the immune system. " [http://en.wikipedia.org/wiki/Human\\_leukocyte\\_antigen](http://en.wikipedia.org/wiki/Human_leukocyte_antigen)

### Genetische Faktoren

Rubicz R, Leach CT, Kraig E (2011) Genetic factors influence serological measures of common infections. [Hum Hered.](#) 72(2), 133-41

[Asner SA](#), [Morré SA](#), [Bochud PY](#), [Greub G](#). (2014) **Host factors and genetic susceptibility for infections due to intracellular bacteria and fastidious organisms.** [Clin Microbiol Infect.](#) doi: 10.1111/1469-0691.12806. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/25366416>  
„**In conclusion, this review supports the paramount role of genetic factors in clinical presentations and severity of infections caused by intracellular fastidious bacteria. Genetic predisposition should be further explored with more performing techniques such as exome sequencing.**“

### HLAB27 (Zelloberflächen-Antigene. Human Leucocyte Antigen (HLA))

[Spondylitis ankylosans](#) (Morbus Bechterew) (90 %). [Morbus Reiter](#) (70–80 %). [Psoriasis-Arthritis](#) (60–70 %). [juvenile idiopathische Arthritis mit Enthesitis](#) (75 %). [Rheumatoide Arthritis](#) (etwa 10 %). Entzündung des vorderen Bereichs des [Auges](#): Akute anteriore [Uveitis](#), Iritis oder [Iridozyklitis](#) (etwa 50 %). Quelle: <http://de.wikipedia.org/wiki/HLA-B27>

### HLADR

Rheumatoide Arthritis, seronegative: **DR1, DR4**, verursacht durch **Borrelia burgdorferi**: **DR4**, **Cardiomyopathie hypertrophische**: **DR4**. Quelle: <http://en.wikipedia.org/wiki/HLA-DR>

Kalish RA et al. (1993): Association of Treatment-Resistant Chronic **Lyme Arthritis** with HLA-DR4 and Antibody Reactivity to OspA and OspB of *Borrelia burgdorferi*. *Infection and Immunity* 61 (7)

Steere AC et al. (1990): Association of chronic **Lyme arthritis** with HLA-DR4 and HLA-DR2 Alleles. *N.Engl. J. Med.* 323 (4).

Wang P & Hilton E (2001): Contribution of HLA Alleles in the Regulation of Antibody Production in **Lyme Disease**. *Frontiers in Bioscience* 6: 10-16.

Rangel LB, Agarwal R, Sherman-Baust CA, et al. (2004) Anomalous expression of the HLA-DR alpha and beta chains in **ovarian and other cancers**. *Cancer Biol Ther* 3(10), 1021-7. [Abstract](#)

Sailler L (2004) What have we learned about **giant cell arteritis** during the last decade? *Rev Med Interne* 25(11), 816-25. [Abstract](#)

Steere AC et al. (2006): Antibiotic-refractory **Lyme arthritis** is associated with HLA-DR molecules that bind a *Borrelia burgdorferi* peptide. *JEM* 203(4).

Benvenga S, Santarpia L, Trimarchi F, Guarneri F. (2006) Human thyroid autoantigens and **proteins of Yersinia and Borrelia** share amino acid sequence homology that includes binding motifs to HLA-DR molecules and T-cell receptor. *Thyroid.* 16(3), 225-36. <http://www.ncbi.nlm.nih.gov/pubmed/16571084>  
„**In conclusion, our in silico data do not directly demonstrate that Borrelia and Yersinia proteins trigger AITD but suggest that a restricted number of them might have the potential to, at least in persons with certain HLA-DR alleles.**“

Barrett JC (2012) From HLA association to function. *Nat Genet* 44(3), 235-6. [Abstract](#)  
<http://www.ncbi.nlm.nih.gov/pubmed/22366857>

→ **Immunitaet** [http://www.erlebnishaft.de/selbst\\_muster\\_nano.pdf](http://www.erlebnishaft.de/selbst_muster_nano.pdf)

→ **Borrelien intrazellulär** [http://www.xerlebnishaft.de/borr\\_intrazellulaer.pdf](http://www.xerlebnishaft.de/borr_intrazellulaer.pdf)

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