

## Borreliose und Ko-Infektionen Lymphom, Neoplasma

**Neoplasma = Tumor im engeren Sinn = neoplastische Geschwulst = Gewebeneubildung**  
**Ein Tumor ist ein Kardinalsymptom einer Entzündung.**

**Ein infiltrierend und destruierend auftretender Tumor ist ein Kardinalsymptom einer ungebremsten Infektion mit Nukleinsäuren.**

**Neoplasm = tumor in the narrow sense = tumor = neoplastic tissue formation.**

**A tumor is a cardinal symptom of inflammation.**

**An infiltrative and destructively occurring tumor is a cardinal symptom of an unbraked infection with nucleic acids.**

Kroun M (2013) **History**, MKs Hamburg presentation <http://lymerick.net/Borreliia-history-test-FINAL.pptx>  
<http://lymerick.net/Bb-history.ppt>

**„Das manifest werden von Tumoren ist offenbar eine Kombination von mindestens zwei dissonanten Störungen: eine unregelte Zellteilung und eine Änderung der Zelloberfläche.**

**The development of tumors is apparently a combination of at least two dissonant disorders: an unregulated cell division and a change in the cell surface“**

Quelle: Cramer F. (1998) *Symphonie des Lebendigen. Versuch einer allgemeinen Resonanztheorie.* Insel Verlag. S. 178 <http://www.amazon.de/Symphonie-Lebendigen-Versuch-allgemeinen-Resonanztheorie/dp/3458338888>

**„Atmung, ohne Gärung ist das Attribut des geordneten Wachstums, Gärung ist das Attribut des ungeordneten Wachstums, überall und immer, im Körper wie in vitro.... Zu den Fermenten der Atmung gehört, chemisch und funktionell, das Ferment Katalase ... Der Katalase-Gehalt ... extrem virulenter Krebszellen ist so niedrig, dass er fast zu vernachlässigen ist. ... Krebszellen sind wegen ihres Katalase-Mangels empfindlicher gegen Wasserstoffsuperoxyd als normale Körperzellen.**

**Breathing, without fermentation is the attribute of the ordered growth, fermentation is the attribute of the disordered growth, everywhere and always, in the body such as in vitro.... Among the enzymes of respiration, chemical and functional, belongs the enzyme catalase ... The catalase content ... in extremely virulent cancer cells is so low that it is almost negligible. Cancer cells are ... because of their catalase deficiency more sensitive to hydrogen peroxide than normal body cells“**

Quelle: Warburg O. (1958) **Partielle Anaerobiose der Krebszellen und Wirkung der Röntgenstrahlen auf Krebszellen.** Jahrbuch 1958 der Max-Planck-Gesellschaft zur Förderung der Wissenschaften E.V. Hubert und Co., Göttingen

➔ **Mitochondrien** <http://www.xerlebnishaft.de/mitochondrien.pdf>

➔ **Immunität** [http://www.erlebnishaft.de/danger\\_model.pdf](http://www.erlebnishaft.de/danger_model.pdf)

➔ Huismans BD (2007) **Lebendigkeit, Selbstorganisation, Morphogenese: 5. Hauptsatz der Thermodynamik, das Phanes Sound Theorem.** Grin Verlag. ISBN 978-3-638-77985-2 <http://www.grin.com/de/e-book/71284/lebendigkeit-selbstorganisation-morphogenese-5-hauptsatz-der-thermodynamik>

➔ Huismans BD (2007) **Nullquantum, Zahlensymbolik und Struktur.** Grin Verlag. ISBN 978-3-638-87371-0 <http://www.grin.com/de/e-book/80450/nullquantum-zahlensymbolik-und-struktur>

1909 präsentiert der schwedische Hautarzt Arvid Afzelius seine Forschungsergebnisse über eine sich ausbreitende, ringförmige Hautrötung.

Askani (1936) Zur Ätiologie des Erythema chronicum migrans. Dermatol Wochenschr 102, 125-131. [http://books.google.de/books/about/Zur\\_%C3%84tiologie\\_des\\_Erythema\\_chronicum\\_mi.html?id=1A-xPgAACAAJ&redir\\_esc=y](http://books.google.de/books/about/Zur_%C3%84tiologie_des_Erythema_chronicum_mi.html?id=1A-xPgAACAAJ&redir_esc=y)

1956 wird die Wanderröte in den USA in einem medizinischen Lehrbuch erstmals beschrieben.

Scrimenti R (1970) first documented the **EM rash** in the United States. <http://sci.tech-archive.net/Archive/sci.med.diseases.lyme/2007-04/msg00121.html>

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## Lymphom

Langer H (1959) Acrodermatitis chronica atrophicans (Herxheimer) and lymphoreticular tumors of the skin. Dtsch Gesundheitsw. 14, 1800-1803 <http://www.ncbi.nlm.nih.gov/pubmed/14413937>  
[http://www.researchgate.net/publication/9174280\\_Acrodermatitis\\_chronica\\_atrophicans\\_%28Herxheimer%29\\_and\\_lymphoreticular\\_tumors\\_of\\_the\\_skin](http://www.researchgate.net/publication/9174280_Acrodermatitis_chronica_atrophicans_%28Herxheimer%29_and_lymphoreticular_tumors_of_the_skin)

Grassner H, Janner M (1974) Acrodermatitis chronica atrophicans Herxheimer in combination with cutaneous lymphoma. Hautarzt 25, 453-456 <http://www.ncbi.nlm.nih.gov/pubmed/4459332>  
[http://www.researchgate.net/publication/18707347\\_Acrodermatitis\\_chronica\\_atrophicans\\_Herxheimer\\_in\\_combination\\_with\\_cutaneous\\_lymphoma](http://www.researchgate.net/publication/18707347_Acrodermatitis_chronica_atrophicans_Herxheimer_in_combination_with_cutaneous_lymphoma)

Burgdorfer W, Barbour AG, Hayes SF et al (1982) Lyme disease a tick-borne spirochaetosis? Science. 216, 1317-1319 <http://www.ncbi.nlm.nih.gov/pubmed/7043737>

[Garbe C](#), [Stein H](#), [Gollnick H](#), [Taud W](#), [Orfanos CE](#) (1988) [Cutaneous B cell lymphoma in chronic *Borrelia burgdorferi* infection. Report of 2 cases and a review of the literature]. *Hautarzt*. 39(11), 717-26. <http://www.ncbi.nlm.nih.gov/pubmed/3072322>

« We conclude that an elevated titer indicating *Borrelia* infection is an important finding for the diagnosis and prognosis of this particular type of cutaneous B-cell lymphoma. »

Cerroni L, Zöchling N, Pütz B, Kerl H (1997) Infection by *Borrelia burgdorferi* and cutaneous B-cell lymphoma. *J Cutan Pathol*. 24(8), 457-61. <http://www.ncbi.nlm.nih.gov/pubmed/9331890>  
« In analogy to *Helicobacter pylori*-associated MALT-lymphomas, which in some cases can be cured by eradication of *Helicobacter pylori* infection, a proportion of CBCL may be cured with antibiotic therapy against *Borrelia burgdorferi*. Although yet speculative, adequate antibiotic treatment for patients with primary CBCL should be considered before more aggressive therapeutic options are applied, particularly in countries where infection by *Borrelia burgdorferi* is endemic. PCR analysis of *Borrelia burgdorferi* DNA is a fast test that should be performed in all patients with CBCL to identify those who more likely could benefit from an early antibiotic treatment. »

[Goodlad JR](#), [Davidson MM](#), [Hollowood K](#) (2000) Primary cutaneous B-cell lymphoma and *Borrelia burgdorferi* infection in patients from the Highlands of Scotland. *Am J Surg Pathol*. 24(9), 1279-85. <http://www.ncbi.nlm.nih.gov/pubmed/10976703>  
„The relationship between *B. burgdorferi* and primary cutaneous B-cell lymphoma (PCBCL) was significant when compared with the control groups separately ( $p < 0.05$ ) or in combination ( $p < 0.01$ ). These results provide strong evidence to support the concept of *B. burgdorferi*-driven lymphomagenesis in the skin.“

[Roggero E](#), [Zucca E](#), [Mainetti C](#) (2000) Eradication of *Borrelia burgdorferi* infection in primary marginal zone B-cell lymphoma of the skin. *Hum Pathol*. 31(2) 263-8. <http://www.ncbi.nlm.nih.gov/pubmed/10685647>

« The disappearance of the microorganism accompanied by the unequivocal decrease of most indicators of active T- and B-cell immune response strongly supported a pathogenetic role for *B. burgdorferi* in sustaining an antigen-driven development and growth of this cutaneous marginal zone lymphoma. Antibiotic therapy (analogous to *Helicobacter pylori* infection in gastric MALT lymphoma) might be helpful with the aim of averting or at least deferring the indication for more aggressive treatment. »

[Munksgaard L](#), [Frisch M](#), [Melbye M](#), [Hjalgrim H](#) (2000) Incidence patterns of Lyme disease and cutaneous B-cell non-Hodgkin's lymphoma in the United States. *Dermatology*. 201(4), 351-2. <http://www.ncbi.nlm.nih.gov/pubmed/11146349>

«This observation suggests that infection with *B. burgdorferi* is not a major risk factor for CBCL in the USA. «

Ruggieri, F., Dummer, R. u. Wellauer, R. (2001): Borreliose und kutanes **B-Zell-Lymphom**, Schweiz Med Forum Nr. 27, S. 710.

Grange F, Wechsler J, Guillaume JC, et al. (2002) *Borrelia burgdorferi*-associated lymphocytoma cutis simulating a primary cutaneous large B-cell **lymphoma**. J Am Acad Dermatol 47(4), 530-4. [Abstract](#)

de la Fouchardiere A, Vandenesch F, Berger F (2003) *Borrelia*-associated primary cutaneous MALT **lymphoma** in a nonendemic region. Am J Surg Pathol 27(5), 702-3. [Full Citation](#)

de la Fouchardiere A, Vandenesch F, Berger F (2003) **Borrelia-associated primary cutaneous MALT lymphoma in a nonendemic region**. Am J Surg Pathol. 27(5), 702-3. PMID: 12717258 <http://www.ncbi.nlm.nih.gov/pubmed/12717258>

Munksgaard L, Obitz ER, Goodlad JR, et al. (2004) Demonstration of *B. burgdorferi*-DNA in two cases of nodal **lymphoma**. Leuk Lymphoma 45(8), 1721-3. [Full Citation](#)

Walther EU, Seelos K, Bise K et al. (2004) Lyme neuroborreliosis mimicking primary CNS Lymphoma. Eur Neurol. 51(1), 43-45 <http://www.pubfacts.com/detail/14639029/Lyme-neuroborreliosis-mimicking-primary-CNS-lymphoma>.

Strålman K, Hørby J, Sjø LD (2005) *Borrelia lymphocytoma* in the breast. Ugeskr Laeger 167(15), 1649-50. [Full Citation](#)

Bhambhani N, Disla E, Cuppari G (2006) Lyme disease presenting with sequential episodes of ruptured **Baker cysts**. J Clin Rheumatol 12(3), 160-2. [Full Citation](#)

Cho-Vega JH, Vega F, Rassidakis G, Medeiros LJ (2006) [Primary Cutaneous Marginal Zone B-Cell Lymphoma](#). Am J. Clin Pathol 125 (Suppl 1), 38-49

Monari P, Farisoglio C, Calzavara Pinton PG (2007) *Borrelia burgdorferi*-associated primary cutaneous marginal-zone **B-cell lymphoma**: a case report. Dermatology 215(3), 229-32. [Abstract](#)

Bahrain H, Laureno R, Krishnan J, et al. (2007) Lyme disease mimicking **central nervous system lymphoma**. Cancer Invest 25(5), 336-9. [Abstract](#)

Batinac T, Petranovic D, Zamolo G, et al. (2007) Lyme borreliosis and multiple sclerosis are associated with primary effusion **lymphoma**. Med Hypotheses 69(1), 117-9. [Abstract](#) <http://www.ncbi.nlm.nih.gov/pubmed/17197115>

[Takino H, Li C, Hu S, Kuo TT](#) et al. (2008) **Primary cutaneous marginal zone B-cell lymphoma: a molecular and clinicopathological study of cases from Asia, Germany, and the United States**. Mod Pathol. 21(12), 1517-26. doi: 10.1038/modpathol.2008.159. Epub 2008 Sep 26. <http://www.ncbi.nlm.nih.gov/pubmed/18820662>

Ferreri AJ, Ernberg I, Copie-Bergman C (2009) **Infectious agents and lymphoma development: molecular and clinical aspects**. J Intern Med. 265(4), 421-38. <http://www.ncbi.nlm.nih.gov/pubmed/19298458>

„**Epstein-Barr virus infection and related lymphoproliferative disorders are analysed as an example of lymphotropic virus with tumorigenic activity. Molecular, biological and clinical features as well as therapeutic implications of these associations are analysed and future perspectives in this field are discussed.** »

Fühler M, Ottmann KW, Tronnier M (2010) **[Cutaneous marginal zone lymphoma (SALT) and infection with *Borrelia burgdorferi*]**. Hautarzt. 61(2), 145-7.

«**In our patient with a *Borrelia* infection, a marginal zone lymphoma (SALT) regressed after ceftriaxone therapy. This further case of a combined appearance of CBCL and *B. burgdorferi* underlines a possible relationship as an example of an infectious trigger in tumorigenesis.** «

Dalle S, Thomas L, Balme B, Dumontet C, Thieblemont C. (2010) Primary **cutaneous marginal zone lymphoma**. Crit Rev Oncol Hematol 74, 156–62. 7.

Fühler M, Ottmann KW, Tronnier M (2010) Cutaneous marginal zone **lymphoma** (SALT) and infection with *Borrelia burgdorferi*. Hautarzt 61(2), 145-7. [Abstract](#)

Tunev SS, Hastey ChJ, Hodzic E et al. (2011) **Lymphadenopathy during Lyme Borreliosis Is Caused by Spirochete Migration-Induced Specific B Cell Activation**. PLoS Pathogens, 7 (5), e1002066 DOI: [10.1371/journal.ppat.1002066](https://doi.org/10.1371/journal.ppat.1002066)

Ponzoni M, Ferreri AJ, Mappa S, et al. (2011) **Prevalence of Borrelia burgdorferi infection in a series of 98 primary cutaneous lymphomas**. Oncologist 16(11), 1582-8. [Abstract](#)

**Unbound MEDLINE results for: borreliosis and tumor AND human** [Refine this search](#)  
257 journal articles in the PubMed database

## Neoplasma

Zajkowska JM, Lebkowski WJ, Snarska-Furła I, et al. (1998) **Lymphocytic meningitis** with the involvement of the skull in the course of **spinal cord neoplasm** simulating neuroborreliosis. Case report. Neurol Neurochir Pol 32(5):1281-7. [Abstract](#)

[Kieslich M](#), [Fiedler A](#), [Driever PH](#) et al. (2000) **Lyme borreliosis mimicking central nervous system malignancy: the diagnostic pitfall of cerebrospinal fluid cytology**. Brain & Development 22(6), 403-406 <http://www.brainanddevelopment.com/article/S0387-7604%2800%2900165-0/abstract>

Salzberg SL, White O, Peterson J, Eisen JA (2001) **Microbial genes in the human genome: lateral transfer or gene loss?** Science 292, 1903–1906. doi: [10.1126/science.1061036](https://doi.org/10.1126/science.1061036).  
<http://www.sciencemag.org/content/292/5523/1903.abstract>

Behringer D, Spyridonidis A, Fetscher S, et al. (2001) **Paraneoplastic polyneuropathy preceding the diagnosis of Hodgkin's disease and non-small cell lung cancer in a patient with concomitant Borrelia burgdorferi infection**. Ann Hematol 80(4), 232-5. [Abstract](#)

Cerroni L, Höfler G, Bäck B et al. (2002) **Specific cutaneous infiltrates of B-cell chronic lymphocytic leukemia (B-CLL) at sites typical for Borrelia burgdorferi infection**. J Cutan Pathol 29, 142–7.

Tothova SM, Bonin S, Trevisan G, et al. (2006) **Mycosis fungoides: is it a Borrelia burgdorferi-associated disease?** Br J Cancer 94(6), 879-83. [Abstract](#)

Kalac M, Suvic-Krizanic V, Ostojic S, et al. (2007) **Central nervous system involvement of previously undiagnosed chronic lymphocytic leukemia in a patient with neuroborreliosis**. Int J Hematol 85(4), 323-5. [Abstract](#)

Dunning Hotopp JC, Clark ME, Oliveira DC, Foster JM, Fischer P, et al. (2007) **Wide spread lateral gene transfer from intracellular bacteria to multicellular eukaryotes**. Science 317 1753–1756. doi: [10.1126/science.1142490](https://doi.org/10.1126/science.1142490).

Koutros, S; Holford, TR; Hahn, T; Lantos, PM; McCarthy, PL; Risch, HA; Swede, H. (2007) **Excess diagnosis of non-Hodgkin's lymphoma during spring in the USA**. Leukemia and Lymphoma. 48, 357-366. [Abstract](#)

Schöllkopf C, Melbye M, Munksgaard L et al. (2008) **Borrelia infection and risk of non-Hodgkin lymphoma**. Blood. 111 (12) <http://www.bloodjournal.org/content/bloodjournal/111/12/5524.full.pdf>  
<http://www.kentuckyindianalymesupport.org/wp-content/uploads/2012/11/non-hodgkin-lymphoma.pdf>  
„In conclusion, for the first time, we found evidence to suggest an association between *Borrelia* infection and risk of mantle cell lymphoma. This novel observation requires confirmation, for example, from studies testing for the presence of *Borrelia* DNA in tumor tissue or from investigations nested in cohorts with access to serologic, register, and/or interview information about *Borrelia* infection. »

Huismans BD, Klemann W. (2008) **Langzeitbehandlung mit Antiinfektiva bei persistierender Borreliose mit Borrelien-DNA-Nachweis durch PCR**. Grin Verlag.

„11,11% (10/90) der Patienten mit bösartigen Tumoren“.

<http://www.grin.com/de/e-book/117294/langzeitbehandlung-mit-antiinfektiva-bei-persistierender-borreliose-mit>  
[http://www.diplomica-verlag.de/gesundheitswissenschaften\\_94/antibiotika-langzeit-therapie-bei-chronischer-lyme-borreliose-mit-borrelien-dna-nachweis-durch-pcr-intensivbehandlung-kombinationsbehandlung-langzeitbehandlung\\_159733.htm](http://www.diplomica-verlag.de/gesundheitswissenschaften_94/antibiotika-langzeit-therapie-bei-chronischer-lyme-borreliose-mit-borrelien-dna-nachweis-durch-pcr-intensivbehandlung-kombinationsbehandlung-langzeitbehandlung_159733.htm)

Leverkus M, Finner AM, Pokrywka A, et al. (2008) **Metastatic squamous cell carcinoma of the ankle in long-standing untreated acrodermatitis chronica atrophicans**. *Dermatology* 217(3), 215-8. [Abstract](#)

Koshiol J, Gridley G, Engels EA, McMaster ML, Landgren O. (2008) Chronic immune stimulation and subsequent **Waldenstrom macroglobulinemia**. *Arch Intern Med* 168, 1903–9.  
[http://r.search.yahoo.com/\\_ylt=A9mSs2zaBeNUeE4AyNozCQx.:\\_ylu=X3oDMTE1YWtxc2ZhBHNIYwNzcqRwb3MMDjIEY29sbwNpcjEEdnRpZANWSVBERTeWxzE-/RV=2/RE=1424193115/RO=10/RU=http%3a%2f%2fhrcaak.srce.hr%2ffile%2f89478/RK=0/RS=ct5MKUTSQOYIDkzpXWX\\_k\\_loj8c-](http://r.search.yahoo.com/_ylt=A9mSs2zaBeNUeE4AyNozCQx.:_ylu=X3oDMTE1YWtxc2ZhBHNIYwNzcqRwb3MMDjIEY29sbwNpcjEEdnRpZANWSVBERTeWxzE-/RV=2/RE=1424193115/RO=10/RU=http%3a%2f%2fhrcaak.srce.hr%2ffile%2f89478/RK=0/RS=ct5MKUTSQOYIDkzpXWX_k_loj8c-)

Bonin S, Tothova SM, Barbazza R, et al. (2010) Evidence of multiple infectious agents in **mycosis fungoides** lesions. *Exp Mol Pathol* 89(1), 46-50. [Abstract](#)

Petranovic D, Duletic-Nacinovic A, Scarpa-Prpic I et al. (2010) Gorski Kotar – An Endemic Region for Primary Gastric Non-Hodkin Lymphoma? *Coll. Antropol.* 34,(3), 877-880

Kash N, Fink-Puches R, Cerroni L (2011) **Cutaneous manifestations of B-cell chronic lymphocytic leukemia associated with Borrelia burgdorferi infection showing a marginal zone B-cell lymphoma-like infiltrate**. *Am J Dermatopathol* 33(7), 712-5. [Abstract](#)

Dunning Hotopp JC (2011) **Horizontal gene transfer between bacteria and animals**. *Trends Genet* 27: 157–163. doi: [10.1016/j.tig.2011.01.005](https://doi.org/10.1016/j.tig.2011.01.005).

Weinberg R (2011) **Cancer Stem Cells: A New Target in the Fight Against Cancer**.  
<https://www.youtube.com/watch?v=tqrrHLkPNRc>

Llosa M, Schroder G, Dehio C (2012) **New perspectives into bacterial DNA transfer to human cells**. *Trends Microbiol* 20: 355–359. doi: [10.1016/j.tim.2012.05.008](https://doi.org/10.1016/j.tim.2012.05.008).

Stricker RB, Johnson L. (2012) **Risk of Malignancy Associated with Lyme Disease: Still Up in the Air**. *International Journal of Cancer*. 'Accepted Article', doi: 10.1002/ijc.27559

Chang CM, Landgren O, Koshiol J. et al. (2012) **Borrelia and subsequent risk of solid tumors and hematologic malignancies in Sweden**. *International Journal of Cancer*. Article first published online: 15 MAR 2012 DOI: 10.1002/ijc.27483

Chang YC, Wu CH, Yen TC, et al. (2012) **Centrosomal protein 55 (Cep55) stability is negatively regulated by p53 protein through Polo-like kinase 1 (Plk1)**. *J Biol Chem*; 287(6), 4376-85.

Riede I (2015) **Borreliose als chronisch lymphatische Leukämie**. *Naturheilkunde. Der freie Arzt*. 3/15- 5/15. 56. Jg. 28-31  
[http://www.researchgate.net/publication/277837630\\_Borreliose\\_als\\_chronisch\\_lymphatische\\_Leukmie](http://www.researchgate.net/publication/277837630_Borreliose_als_chronisch_lymphatische_Leukmie)

**Krebsstammzelltherapie** <http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>

Bolhassani A, Zahedifard F (2012) **Therapeutic live vaccines as a potential anticancer strategy**. *International journal of cancer. Journal international du cancer*.  
<http://www.ncbi.nlm.nih.gov/pubmed/22610886>

„Abstract. The design of efficient cancer treatments is one of the major challenges of medical science. Therapeutic vaccines of cancer have been emerged as an attractive approach for their capacity of breaking the immune tolerance and invoking long-term immune response targeting cancer cells without autoimmunity. An efficient antigen delivery system is the key issue of developing an effective cancer



vaccine. In this regard, live vaccination strategies including various live bacterial and viral vectors have attracted a great attention. Several bacterial strains such as Salmonella, Listeria monocytogenes and Lactococcus lactis effectively colonize solid tumors and act as antitumor therapeutics. On the other hand, the use of viruses as vaccine vectors such as Vaccinia, Adenovirus, Herpes simplex virus, Paramyxovirus and Retroviruses utilizes mechanisms that evolved in these microbes for entering cells and capturing the cellular machinery to express viral proteins. Viral/bacterial-vectored vaccines induce systemic T-cell responses including polyfunctional cytokine-secreting CD4+ and CD8+ T-cells. However, there is an urgent need for the development of new safe live vaccine vectors that are capable of enhancing antigen presentation and eliciting potent immune responses without the risk of development of disease in humans. Recently, nonpathogenic parasites including Leishmania tarentolae, Toxoplasma gondii and Trypanosoma cruzi have emerged to be a novel candidate for gene delivery and heterologous genes expression. In this review, recent researches on cancer therapy using genetically modified bacteria and virus are summarized. In addition, live parasite-based vectors will be discussed as a novel anticancer therapeutic approach“.

[Maloy S \(2012\) \*\*Microbes and Evolution\*\*. The World That Darwin Never Saw. <http://www.amazon.de/Microbes-Evolution-World-Darwin-Never/dp/1555815405>](http://www.amazon.de/Microbes-Evolution-World-Darwin-Never/dp/1555815405)

[Lizée G, Overwijk WW, Radvanyi L, Gao J et al. \(2013\) \*\*Harnessing the power of the immune system to target cancer\*\*. Annual review of medicine <http://www.ncbi.nlm.nih.gov/pubmed/23092383> „Abstract. For many years, immunotherapeutic approaches for cancer held more promise than actual clinical benefit for the majority of patients. However, several recent key advances in tumor immunology have now turned the tide in favor of immunotherapy for the treatment of many different cancer types. In this review, we describe four of the most effective immunotherapeutic approaches currently used in the clinic: cancer vaccines, immunostimulatory agents, adoptive T cell therapy, and immune checkpoint blockade. In addition, we discuss some of the most promising future strategies that aim to utilize multiple immunotherapies or combine them with other approaches to more effectively target cancer“.](http://www.ncbi.nlm.nih.gov/pubmed/23092383)

Riley DR et al. (2013) **Bacteria-human somatic cell lateral gene transfer is enriched in cancer samples**. PLOS Comput.Biology. <http://www.ploscompbiol.org/article/info%3Adoi%2F10.1371%2Fjournal.pcbi.1003107>

Riede, I. (2014) **Membrane Fluidity: About the Origin of Autoimmunity**. Open Journal of Immunology, 4, 9-13. <http://dx.doi.org/10.4236/oji.2014.41002>

- ➔ **Virus triggers** <http://www.erlebnishaft.de/virus triggers.pdf>
- ➔ **Immunsuppressive Virusarten** <http://www.erlebnishaft.de/virus triggers.pdf>
- ➔ **Bakterielle Stressvarianten** <http://www.erlebnishaft.de/stressvar1.pdf>  
<http://www.erlebnishaft.de/stressvar2.pdf>
- ➔ **Gentransfer** <http://www.erlebnishaft.de/gentransfer.pdf>
- ➔ **Virus Bakterium und Immunsystem** <http://www.erlebnishaft.de/virusbaktimmun.pdf>
- ➔ **Angiopathie** <http://www.xerlebnishaft.de/angiopathie.pdf>
- ➔ **Tumorsuppressor-Protein P53** <http://www.erlebnishaft.de/p53.pdf>
- ➔ **Methylierung** <http://www.xerlebnishaft.de/bildmethyl-arginin.pdf>
- ➔ **Mitochondrien** <http://www.xerlebnishaft.de/mitochondrien.pdf>
- ➔ **Zytoskelett** <http://www.xerlebnishaft.de/zytoskelett.pdf>
- ➔ **Zytokine** <http://www.kabilahsystems.de/antizyt-chem.pdf>
- ➔ **Selbstorganisation** [http://www.erlebnishaft.de/selbst\\_muster\\_nano.pdf](http://www.erlebnishaft.de/selbst_muster_nano.pdf)
- ➔ **Quorum sensing und Kohärenz** <http://www.xerlebnishaft.de/quorum.pdf>
- ➔ **Pathogenitätsfaktoren** [http://www.xerlebnishaft.de/bakt\\_pathogenitaetsfaktoren.pdf](http://www.xerlebnishaft.de/bakt_pathogenitaetsfaktoren.pdf)
- ➔ **Multiple Sklerose** <http://www.erlebnishaft.de/multipleskleroseborreliose.pdf>
- ➔ **Krebsstammzelltherapie** <http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>
- ➔ **Microbes and Cancer (Video)** [http://polygenicpathways.blogspot.de/2014/05/microbes-and-cancer.html?utm\\_source=feedburner&utm\\_medium=email&utm\\_campaign=Feed:+Polygeniclog+%28PolygenicBlog%29](http://polygenicpathways.blogspot.de/2014/05/microbes-and-cancer.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed:+Polygeniclog+%28PolygenicBlog%29)

[Bernt - Dieter Huismans](http://www.Huismans.click), 2012. Letzte Revision Oktober 2016 [www.Huismans.click](http://www.Huismans.click)  
Back to top: [http://www.xerlebnishaft.de/borrel\\_inflam\\_lymphom\\_neopl.pdf](http://www.xerlebnishaft.de/borrel_inflam_lymphom_neopl.pdf)

