

## Immunstimulantien, Immunmodulantien

**Entzündung** (lat. inflammatio) <http://www.inflammatio.de/>

**Die wirksamste Immunrestauration bzw. -stimulation ist die Beseitigung der störenden Ursachen der gestörten Immunitätslage, die Reduktion der Krankheitserreger und Toxine.**

**The most effective immune restauration resp. -stimulation is to eliminate the disturbing causes of the disturbed immune status, the reduction of pathogens and toxins.**

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**Immunkompetenz** ist das gelungene Gleichgewicht zwischen Entzündung und Lebendigkeit (Toleranz) gegenüber Umwelteinflüssen (Virusarten, Bakterien, Protozoen, Toxinen, Elektromagnetismus).

**Immune competence** is a fine balance between inflammation and vitality (tolerance) to environmental factors (viral species, bacteria, protozoa, toxins, electromagnetism).

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### **A. Immunrestauration, immune restoration**

Therapie: [Salutogenese](#), [Minerale](#), [Vitamine](#), [Glutathion](#), Thymus ; [Mitochondrienfunktion stabilisieren](#)

**Immunrestauration immer vor Immunstimulation. Always immune restoration prior to immune stimulation**

### **B. Immunstimulation, immune stimulation**

**Eine Immunstimulation muss indiziert sein.** Die verminderte Immunkompetenz eines Patienten muss vor Beginn jeder immunstimulierenden Behandlung dokumentiert worden sein.

**An immune stimulation must be indexed.** The decreased immune competence of a patient must be documented before beginning any immune stimulatory treatment.

Aktivierte Immunverhältnisse sind relative **Kontraindikationen** zur Immunstimulation. <http://www.kabilahsystems.de/antizyt-chem.pdf>

Activated immune conditions are relative **contraindications** for immune stimulation. <http://www.kabilahsystems.de/antizyt-chem.pdf>

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**Marker der Immunkompetenz: Marker of immune competence:**

**Elektrophorese, Immunelektrophorese**

**CD4, CD8, CD57+ natürlichen Killerzellen**

<http://www.erlebnishaft.de/kommentcd57.pdf> <http://www.erlebnishaft.de/cd57.pdf>,

**ggf. durch Entzündungsmarker ergänzen etc.**

**TH1/TH2-Balance** <http://www.laborzentrum.org/dokumente/th1-th2-immunbalance.pdf>

und, and

**Komplement Faktoren (C, Nagalase)** <http://www.xerlebnishaft.de/complement.pdf>

**Human Leukozyten Antigen (HLA)** [http://www.xerlebnishaft.de/genetische\\_faktoren.pdf](http://www.xerlebnishaft.de/genetische_faktoren.pdf)

**Toll like Rezeptor (TLR)** [http://www.erlebnishaft.de/TLR2\\_1\\_3\\_7\\_13.pdf](http://www.erlebnishaft.de/TLR2_1_3_7_13.pdf)

**P53 (Wächter des Genoms)** <http://www.erlebnishaft.de/p53.pdf>

➔ **Bakterien stabilisieren, entwaffnen** [http://www.kabilahsystems.de/bakt-stabilis\\_entwaff.pdf](http://www.kabilahsystems.de/bakt-stabilis_entwaff.pdf)

Hubert A, Baumann U, Borte M et al. (2004) **Humorale Immundefizienz I: Antikörpermangelsyndrome ohne bekannten genetischen Defekt.** Allergologie, Jahrgang 27, Nr. 7/2004, 296–310 <http://www.immundefekt.de/hid.shtml>  
[https://www.researchgate.net/publication/228649180\\_Humorale\\_Immundefizienz\\_I\\_Antikorpermangel\\_syndrome\\_ohne\\_bekanntem\\_genetischen\\_Defekt](https://www.researchgate.net/publication/228649180_Humorale_Immundefizienz_I_Antikorpermangel_syndrome_ohne_bekanntem_genetischen_Defekt)

Hubert A, Baumann U, Borte M et al. (2004) **Humorale Immundefizienz II: Antikörpermangelsyndrome mit bekanntem genetischem Defekt.**  
<http://www.immundefekt.de/hill.shtml>

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Nat. Rev. Mikrobiol. 2, 497-504 <http://www.nature.com/nrmicro/journal/v2/n6/abs/nrmicro908.html>

## **Immunmodulation, Praebiotika**

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De Angelis M, Montemurno E, Vannini L et al. (2015) Effect of Whole-Grain Barley on the Human Fecal Microbiota and Metabolome. In: [Applied and Environmental Microbiology](#). 81(22), 7945–7956, [doi:10.1128/AEM.02507-15](https://doi.org/10.1128/AEM.02507-15), [PMID 26386056](https://pubmed.ncbi.nlm.nih.gov/26386056/).

Brandstätter O, Schanz O, Vorac J et al. (2016) Balancing intestinal and systemic inflammation through cell type-specific expression of the aryl hydrocarbon receptor repressor. In: [Scientific Reports](#). 6, 26091, [doi:10.1038/srep26091](https://doi.org/10.1038/srep26091).

LeBlanc JG, Chain F, Martín R, Bermúdez-Humarán LG, Courau S, Langella P (2017) Beneficial effects on host energy metabolism of short-chain fatty acids and vitamins produced by commensal and probiotic bacteria. In: Microbial cell factories. 16(1), 79, [doi:10.1186/s12934-017-0691-z](https://doi.org/10.1186/s12934-017-0691-z), [PMID 28482838](https://pubmed.ncbi.nlm.nih.gov/28482838/), [PMC 5423028](https://pubmed.ncbi.nlm.nih.gov/5423028/)

Bartolomaeus H et al. (2018) The Short-Chain Fatty Acid Propionate Protects from Hypertensive Cardiovascular Damage. In: Circulation. [doi:10.1016/j.cardiores.2006.06.030](https://doi.org/10.1016/j.cardiores.2006.06.030).

Tiroschi A, Calay ES et al. (2019) [The short-chain fatty acid propionate increases glucagon and FABP4 production, impairing insulin action in mice and humans.](#) In: Science Translational Medicine.

- ➔ **Biogene Amine und Peptide** <http://www.kabilahsystems.de/biogeneamineundpeptide.pdf>
- ➔ **Fettsäuren** <http://www.kabilahsystems.de/ungesaettfetts.pdf>
- ➔ **Wasserstoff-Ionen, Protonen, PH-Wert** <http://www.kabilahsystems.de/ph.pdf>
- ➔ **Begleittherapie** [www.kabilahsystems.de/kommentmedbegleittherapie.pdf](http://www.kabilahsystems.de/kommentmedbegleittherapie.pdf)

## **Immunstimulantien**

**Therapeutische Hyperthermie** [http://www.xerlebnishaft.de/therapeutische\\_hyperthermie.pdf](http://www.xerlebnishaft.de/therapeutische_hyperthermie.pdf)

**Autologe Vollblut - Therapie (Eigenbluttherapie)**

**Pflanzliche** Echinacea (z.B. Esberitox N®, Contramutan N®, Echinacin, Echinacea, Lymphozil®) Kontraindikationen beachten! **Astragalus** (z.B. Astragalus Tragant). Flor Essence bzw. Essiac., [Curcumin](#)

[Akram M, Tahir IM, Shah SMA](#) et al. (2018) **Antiviral potential of medicinal plants against HIV, HSV, influenza, hepatitis, and coxsackievirus: A systematic review.** *Phytother Res.* doi: 10.1002/ptr.6024. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/29356205>  
„The current review consolidates the data of the various medicinal plants, those are **Sambucus nigra, Caesalpinia pulcherrima, and Hypericum connatum, holding promising specific antiviral activities scientifically proven through studies on experimental animal models.**“

**Heilpilze** Maitake (Tanzender Pilz) / Klapperschwamm (2012) <http://www.provitas.org/InfoTexte/maitake.pdf> Coriolus (Schmetterlingsporling). [http://www.biokrebs.de/images/stories/download/Therapie\\_Infos/Heilpilze.pdf](http://www.biokrebs.de/images/stories/download/Therapie_Infos/Heilpilze.pdf)  
(2018) Active Hexose Correlated Compound (AHCC) <http://ahccresearch.com/>

**Mikrobielle Produkte** Bakterienlysate (z.B. Symbioflor 1®, Broncho-Vaxom®, IRS 19®, Omnadin®) Ribosomen-Präparationen (Biomunyl®, Ribomunyl®) Formoltoxoid von Corynebakterium sp. (Arthrokehlant "U"®) BCG-Keime (BCG-S-medac®, OncoTICE®), [Probiotika](#)

**Thymus-Hormone** Thymostimulin (Peptidextrakt; TP-1, Thym-Uvocal u.v.a.m.) Thymopentin TP-5 (Timunox 100)

**Interferone** Interferon- $\alpha$  (Intron A®, Glucoferon®, Roferon®) Interferon- $\beta$  (Fiblaferon®, Betaferon®) Interferon- $\gamma$  (Imukin®)

**Hämatopoetische Wachstumsfaktoren** G-CSF (Neupogen®, Granocyte®) GM-CSF (Leukomax®)

**Zytokine** Interleukin 2 (Proleukin®)

**Chemisch definierte Substanzen** Isoprinosine, Dimepranol-4-acetamidobenzoat (Delimmun®), Peptide und Autovaccine, Lactoferrin, Vitamin D3, Vitalpilze, RNA, Ribosomen-Präparationen, [MikroRNA](#), Gc-MAF

### **Isoprinosine, Delimmun®**

**Aktive Wirkstoffe:** Dimepranolacetamidobenzoat, Inosin

Inosin ist ein Purin-Nukleosid, welches als Zwischenprodukt des Purin-Stoffwechsels entsteht.

<http://de.wikipedia.org/wiki/Inosin>

**Indikation:** zur Immunstimulation bei: Herpes simplex-Infektionen, subakut sklerosierender Panencephalitis (SSPE), Virusinfektionen bei immunsupprimierten Patienten (Herpes simplex-, Varizella zoster-, Masern-, Zytomegalie- und Epstein-Barr-Virus-Infektionen).

<http://drugline.info/drug/medicament/delimmun/>

**Kontraindikationen:** Gicht, erhöhter Harnsäurespiegel im Blut, **Harn- und Nierensteinleiden, Niereninsuffizienz, Neigung zu Extrasystolie, zerebrales Anfallsleiden, Magenkrankungen, Autoimmunerkrankungen, Schwangerschaft und Stillzeit.**

**Kontrollmaßnahmen:** Kreatinin-, Harnsäure, GPT, Gamma GT im Serum.

**Active Ingredients:** Dimepranolacetamidobenzoat, inosine

Inosine is a purine nucleoside that is formed as an intermediate product of purine metabolism.

<http://en.wikipedia.org/wiki/Inosine>

**Indication:** for immunostimulation in: Herpes simplex infections, subacute sclerosing panencephalitis (SSPE) virus infections in immunocompromised patients (herpes simplex, varicella zoster, measles, Zytomegalie and Epstein-Barr virus infections).

**Contraindications:** gout, increased levels of uric acid in the blood, **urine and kidney stone disease, renal failure, susceptibility to extrasystoles, cerebral seizure disorders, gastrointestinal**

disorders, **autoimmune disorders, pregnancy and lactation.**

**Control measures:** creatinine, uric acid, GPT, gamma-GT in serum.

Hadden, J.W., Hadden, E.M., Coffey, R.G. (1976) Isoprinosine augmentation of phytohemagglutinin-induced lymphocyte proliferation. *Infect. Immun.* <http://www.wikigenes.org/e/ref/e/57100.html> [Pubmed](#)

Wybran, J., Govaerts, A., Appelboom, T. (1978) Inosiplex, a stimulating agent for normal human T cells and human leukocytes. *J. Immunol.* <http://www.wikigenes.org/e/ref/e/80429.html> [Pubmed](#)

Buge, A., Rancurel, G., Metzger, J., Picard, A., Lesourd, B., Gardeur, D. *Lancet* (1979) Isoprinosine in treatment of acute viral encephalitis. [Pubmed](#)

Abeles, J.H. (1982) Inosiplex in recurrent herpes simplex infection. *Lancet* [Pubmed](#)

Haidushka, I., Zlatev, S. (1987) Isoprinosine in patient with systemic lupus erythematosus. *Lancet* [Pubmed](#)

Barasoain, I., Rejas, M.T., Portoles, M.P., Ojeda, G., Rojo, J.M. (1987) Isoprinosine restores in vitro T lymphocyte functions of cyclophosphamide immunosuppressed mice. *Int. J. Immunopharmacol.* <http://www.wikigenes.org/e/ref/e/2442109.html> [Pubmed](#)

Mahrle G (1987) Current therapy: immunopharmaceuticals. *Z Hautkr* 15, 62(10), 753-6, 759-62, 765. <http://www.ncbi.nlm.nih.gov/pubmed/2887076>

Masihi KN (2000) Immunomodulatory agents for prophylaxis and therapy of infections. *Int J Antimicrob Agents* 14(3), 181-91. <http://www.ncbi.nlm.nih.gov/pubmed/10773486>

Diaz-Mitoma, F, Turgonyi, E, Kumar, A (2003) Clinical improvement in chronic fatigue syndrome is associated with enhanced natural killer cell-mediated cytotoxicity: the results of a pilot study with Isoprinosine. *Journal of Chronic Fatigue Syndrome*. Volume 11(2) 71-95  
[http://www.rivexpharma.com/pdf/Imunovir\\_study.pdf](http://www.rivexpharma.com/pdf/Imunovir_study.pdf)  
<http://www.cfids-cab.org/cfs-inform/Antiviral/diaz-mitoma.etal03.pdf>

Gołębiewska-Wawrzyniak M, Markiewicz K, Kozar A, et al. (2005) Immunological and clinical study on therapeutic efficacy of inosine pranobex. *Pol Merkur Lekarski* 19(111), 379-82.  
<http://www.ncbi.nlm.nih.gov/pubmed/16358878>

Georgala S, Katoulis AC, Befon A, et al. (2006) Oral inosiplex in the treatment of cervical condylomata acuminata: a randomised placebo-controlled trial. *BJOG* 113(9), 1088-91.  
<http://www.ncbi.nlm.nih.gov/pubmed/16956341>

Georgala S, Katoulis AC, Befon A, et al. (2006) Inosiplex for treatment of alopecia areata: a randomized placebo-controlled study. *Acta Derm Venereol* 86(5), 422-4.  
<http://www.ncbi.nlm.nih.gov/pubmed/16955187>

Kato Z, Asano T, Kondo N (2006) Inosiplex affects the spectra of proton magnetic resonance spectroscopy in subacute sclerosing panencephalitis. *J Child Neurol* 21(2), 177-8.  
<http://www.ncbi.nlm.nih.gov/pubmed/16566890>

Petrova M, Jelev D, Ivanova A, et al. (2010) Isoprinosine affects serum cytokine levels in healthy adults. *J Interferon Cytokine Res* 30(4), 223-8. <http://www.ncbi.nlm.nih.gov/pubmed/20038210>

Hosoya M (2012) Anti SSPE drugs. *Nihon Rinsho* 70(4), 625-8.  
<http://www.ncbi.nlm.nih.gov/pubmed/22568144>

## Gc-MAF

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Saharuddin BM, Nagasawa H, Uto Y, Hori H (2002) Tumor cell alpha-N-acetylgalactosaminidase activity and its involvement in GcMAF-related macrophage activation [Elsevier, 132\(1\), 1–8](https://doi.org/10.1016/S1547-1617(02)00001-0), [Comparative Biochemistry and Physiology - Part A: Molecular & Integrative Physiology](https://doi.org/10.1016/S1547-1617(02)00001-0)

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Yamamoto N, Hirofumi Suyama H, Yamamoto N (2008) Immunotherapy for Prostate Cancer with Gc Protein-Derived Macrophage-Activating Factor, **GcMAF1** - Translational Oncology 1 (2), 65–72 [PDF](#) [http://www.biologischeskrebstherapie.net/wp-content/uploads/2013/11/tlo0102\\_0065-Yamamoto-GcMAF-prostrate-cancer.pdf](http://www.biologischeskrebstherapie.net/wp-content/uploads/2013/11/tlo0102_0065-Yamamoto-GcMAF-prostrate-cancer.pdf)

Pacini S, Punzi T, Morucci G, Gulisano M, Ruggiero M. (2012) Effects of **vitamin D-binding protein**-derived macrophage-activating factor on human breast cancer cells. Anticancer Res. 32, 45–52. [[PubMed](#)]

[Thyer L](#), [Ward E](#), [Smith R](#) et al. (2013) GC protein-derived macrophage-activating factor decreases  $\alpha$ -N-acetylgalactosaminidase levels in advanced cancer patients. Oncoimmunology. Landes Bioscience 2(8), e25769. doi: [10.4161/onci.25769](https://doi.org/10.4161/onci.25769) PMID: PMC3812199 [PDF](#) <http://www.biologischeskrebstherapie.net/wp-content/uploads/2013/11/2013ONCOIMM0155R.pdf> <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3812199/>

**„...However, the response to GcMAF was often relatively robust and certain trends stand out.“**

KUCHIIKE D, UTO Y, MUKAI H et al. (2013) **Degalactosylated/Desialylated Human Serum Containing GcMAF Induces Macrophage Phagocytic Activity and In Vivo Antitumor Activity**. ANTICANCER RESEARCH 33, 2881-2886 <http://www.biologischeskrebstherapie.net/wp-content/uploads/2013/11/2013-degalactosylated-desialylated-human-serum-containing-gcmf-induces-macrophage-phagocytic-antitumor-activity.pdf> **« We demonstrated that GcMAF-containing human serum can be used as a potential macrophage activator for cancer immunotherapy.“**

INUI T, KUCHIIKE D, KUBO K et al. (2013) **Clinical Experience of Integrative Cancer Immunotherapy with GcMAF**. ANTICANCER RESEARCH 33, 2917-2920 [PDF](#) <http://www.biologischeskrebstherapie.net/wp-content/uploads/2013/11/2013-clinical-experience-integrative-cancer-immunotherapy-gcmf.pdf> **„The results of our integrativeimmunotherapy seem hopeful. We also plan to conduct a comparative clinical study. Immunotherapy has become an attractive new strategy in the treatment of cancer. »**

GcMAF by Cosomed (2015) <http://www.gcmf-immuntherapie.com/>

Five5 (2015) <http://www.biologischeskrebstherapie.net/gcmf/>

Sample records for serum nagalase activity from WorldWideScience.org <http://worldwidescience.org/topicpages/s/serum+nagalase+activity.html> <http://www.gcmf-immuntherapie.com/> <http://www.biologischeskrebstherapie.net/gcmf/> <https://en.wikipedia.org/wiki/Gc-MAF> <http://www.firstimmune.de/> <http://immunocentre.eu/what-is-gcmf/> <http://www.firstimmune.de/patient-resources/treatment-strategies/>

**Gc-MAF explained - The start (www.bgli.nl to order Gc-MAF)** <https://www.youtube.com/watch?v=y7BLpR214t0#t=49>

## Noakes D (2015) How GcMAF eradicates cancers

<https://www.youtube.com/watch?v=z998HfHbi7w>

~ [http://www.himmunitas.org/pages/english/index\\_en.php?page=home\\_en](http://www.himmunitas.org/pages/english/index_en.php?page=home_en) ~

➔ **Krebsstammzelltherapie, Nagalase etc.**

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

➔ **Peptide und Autovaccine**

<http://www.kabilahsystems.de/biogeneamineundpeptide.pdf>

## Vitamin D3

[Di Rosa M](#), [Malaguarnera M](#), [Nicoletti F](#), [Malaguarnera L](#). (2011) Vitamin D3: a helpful immunomodulator. *Immunology*. 134(2), 123-39. doi: 10.1111/j.1365-2567.2011.03482.x.

<http://www.ncbi.nlm.nih.gov/pubmed/21896008>

Noordam R, de Craen AJM, Pedram P et al (2012) Levels of 25-hydroxyvitamin D in familial longevity: the Leiden Longevity Study. *CMAJ* First published November 5, 2012, doi: 10.1503/cmaj.120233

<http://www.cmaj.ca/content/early/2012/11/05/cmaj.120233>

## Lactoferrin

[Clarke NM](#), [May JT](#). (2000) Effect of antimicrobial factors in human milk on rhinoviruses and milk-borne cytomegalovirus in vitro. *J Med Microbiol*. 49(8), 719-23.

<http://www.ncbi.nlm.nih.gov/pubmed/10933257> [**Lactoferrin**]

Singh PK, Parsek MR, Greenberg EP, Welsh MJ (2002) A component of innate immunity prevents bacterial biofilm development. *Nature* 417:552–555. doi:10.1038/417552a.

[CrossRefPubMedWeb of ScienceGoogle Scholar](#) [**Lactoferrin**]

Ochoa TJ, Clearly TG (2004) **Lactoferrin** disruption of bacterial type III secretion systems. *Biometals*. 17(3), 257–60 <http://www.ncbi.nlm.nih.gov/pubmed/15222474>

[Viza D](#), [Fudenberg HH](#), [Palareti A](#), [Ablashi D](#), [De Vinci C](#), [Pizza G](#). (2013) **Transfer factor**: an overlooked potential for the prevention and treatment of infectious diseases. *Folia Biol (Praha)*. 59(2), 53-67. <http://www.ncbi.nlm.nih.gov/pubmed/23746171>

„Data also suggest its possible use for adjuvant treatment and probably prevention of two currently widespread infections: tuberculosis and AIDS. Furthermore, TF has an interesting potential: answering the challenge from unknown pathogenic agents, a black box effect permitting production of antigen-specific TF to a new pathogen, even before its identification. It thus seems that the preventative potential of transfer factor is as important as its therapeutic one, both discussed in this review.“

Quelle: Wahn V. Immundefektzentrum Charité <http://www.immundefekt.de/immunstimulation.shtml>

## Mikrobiom, RNA, Ribosomen-Präparationen

[David R. Strayer](#), [William Carter](#), [Kenneth I. Strauss](#) et al. (1955) **Long Term Improvements in Patients with Chronic Fatigue Syndrome Treated with Ampligen**. *Journal of Chronic Fatigue Syndrome* Volume 1, 1995 - *Issue 1*

[Long Term Improvements in Patients with Chronic Fatigue Syndrome Treated with Ampligen](#)

[Wu H-J](#), [Wu E](#) (2012) **The role of gut microbiota in immune homeostasis and autoimmunity**. *Gut Microbes*. 3(1), 4–14. doi: [10.4161/gmic.19320](https://doi.org/10.4161/gmic.19320) PMID: PMC3337124

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3337124/>

Li Y et al. (2013) **RNA interference functions as an antiviral immunity mechanism in mammals**. *Science*, 342: 231-234.

Maillard PV et al. (2013) **Antiviral RNA interference in mammalian cells**, *Science* 342, 235-38

Gandhi R et al. (2014) **Gut microbiome is linked to immune cell phenotype in multiple sclerosis.** Programme und Abstracts des 2014 Joint ACTRIMS-ECTRIMS Meeting; 10. bis 13. September, 2014; Boston, Massachusetts. Poster 616

Mitchell WM. (2016) **Efficacy of rintatolimod in the treatment of chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME).** Review article. Expert Rev Clin Pharmacol. <https://www.ncbi.nlm.nih.gov/pubmed/27045557/?i=2&from=cfs%20ampligen>

Castro-Marrero J, Sáez-Francàs N, Santillo D, Alegre J (2017) **Treatment and management of chronic fatigue syndrome/myalgic encephalomyelitis: all roads lead to Rome.** Br J Pharmacol. 174(5), 345–369. Published online 2017 Feb 1. doi: [10.1111/bph.13702](https://doi.org/10.1111/bph.13702) PMID: PMC5301046 PMID: 28052319 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5301046/>

- ➔ **RNA-Welt** <http://www.xerlebnishaft.de/rna.pdf>
- ➔ **Aids Info DRUGS** <https://aidsinfo.nih.gov/drugs/530/rintatolimod/0/patient>
- ➔ **Virulenz Inhibitoren** [http://www.kabilahsystems.de/virulenz\\_inhibitoren.pdf](http://www.kabilahsystems.de/virulenz_inhibitoren.pdf)
- ➔ **Minerale, Vitamine, Glutathion**
- ➔ **Probiotika** <http://www.kabilahsystems.de/probiotika.pdf>

## CpG-Oligonukleotide

<https://de.wikipedia.org/wiki/CpG-Oligonukleotid>

Coley WB (1893) **The treatment of malignant tumors by repeated inoculations of erysipelas. With a report of ten original cases.** The American Journal of the Medical Sciences. [https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=2ahUKEwiV2t6VmYHdAhUJyaQKHbLmApCQFjADegQIBxAC&url=http%3A%2F%2Fkendallasmith.com%2Fpdf%2Fmalignant\\_tumors.pdf&usq=AOvVaw0wTf8ObcriDcPNatMAXp0W](https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=2ahUKEwiV2t6VmYHdAhUJyaQKHbLmApCQFjADegQIBxAC&url=http%3A%2F%2Fkendallasmith.com%2Fpdf%2Fmalignant_tumors.pdf&usq=AOvVaw0wTf8ObcriDcPNatMAXp0W)

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