


Antibiotika Gruppen	Erreger Medikament	Borre-	Barto-	Yersin	Babes	Chlam	Myko-	Ehrlic	Myco-	Toxo-	Morge	Virus-
		lien	nellen	ien	ien Proto myxo	ydien	plas- men	hien	bakter ien „MOT“	plas- men	llen	arten
Keine Monotherapie!	<u>Ceftriaxon</u>	X*	x									
Betalactame	<u>Cefuroxim</u>	K*		X*								
	<u>Amoxicillin</u>	X	X*									
Makrolide	<u>Azithromycin</u>	X* X*	X*	X	X	X*	X*	X*	X	X	X*	x
	<u>Clarithromyc.</u>	K*				x			x			
	<u>Avermectin</u>				?					?		
Lincosamide	<u>Clindamycin</u>				X X					X		
Tetrazykline	<u>Min.-/Dox.-/T.</u>	X* X*	X*	X	X	X*	X	X	X	X	X*	x
Ansamycine	<u>Rifampicin</u>		X*		X	X*	X	X	X	X		
Chinolone	<u>Levofloxazin</u>			X X		X	X	X	Coxiellen, Franzisellen, Rickettsien ..			
	<u>Ciprofloxazin</u>		X			X		x				
Vitamin- antagonisten	Cotrim Rat. ®	K*	X*	X	X	X	X	X	X	X	X*	
	<u>Dapson® @</u>	X					X		X			
Antimetabo- lite	<u>Sulfadiazin @</u>	X				x				X		
	<u>Daraprim®</u>									X		
Antiprotozoik	<u>Malarone® @</u>				X					X		
<u>Lysosomo- tropica</u>	<u>Artemisia +</u>	X* X*	X*	X	X	X*	X	X	X	X	X*	X
	<u>Hydr.chloroq.</u>	X* X*	X*	*	X	x	x	x	*	*	X*	*
Nitroimidaz.	<u>Metronidazol</u>	X			X	x					X*	
Antimycotica	<u>Fluconazol</u>	X									X*	
<u>Antihelminthika</u>	<u>Mebendazol @</u>										X*	
Virustatika u. <u>Phenothiazine</u>	<u>Inosiplex, Ama</u>	*	*	*	*	*	*	*	*	*	*	X X X
	<u>Valaciclovir</u>											X
pH	<u>Lactulose</u>	x	x	x	x	x	x	x	x	x	x	x
Phyto Standard	<u>Phytother. 1</u>	X*	x	x	x	X*	x	x	x	x	x	x
	<u>Phytother. 2</u>	X	x	x	x	X	x	x	x	x	x	x
Sonstige	<u>Pyrazinamid</u>		.		.	.	.	.	X			
	<u>Methylenblau</u>	.			.	.	.	.		.		
	<u>INH</u>					.			.			
	<u>AmphoMoral</u>	.									X	
	<u>Rifaximin</u>			x					X			
	<u>Tigecyclin</u>	.				.	.	.				
	<u>Vancomycin od</u>	<u>Fidaxo</u>										
	<u>Daptomycin</u>	X										
<u>Phosphomycin</u>												
<u>Mupirocin 2%</u>												

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**Krankheitserreger und krankheitsspezifische Antibiotika.**

**Pathogens and disease-specific antibiotics ->**  
<http://www.xerlebnishaft.de/antibiosetherapie.pdf>

The tables show the most common co-infections and their corresponding effective antimicrobials.

“Chronic Lyme disease” is treated for minimum 3 or 6 months with a triple or quadruple drug - combination therapy including adjuvants and physiotherapy.

.....x **Mittel der Wahl, drugs of choice** x.....

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Nau R, Sörgel F, Eiffert H (2010) **Penetration of Drugs through the Blood-Cerebrospinal Fluid/Blood-Brain Barrier for Treatment of Central Nervous System Infections.** *Clin Microbiol Rev.* 23(4), 858–883. doi: [10.1128/CMR.00007-10](https://doi.org/10.1128/CMR.00007-10) PMID: PMC2952976 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2952976/>

Nemeth J, Oesch G, Kuster SP (2014) **Bacteriostatic versus bactericidal antibiotics for patients with serious bacterial infections: systematic review and meta-analysis.** *J Antimicrob Chemother.* pii: dku379. <http://www.ncbi.nlm.nih.gov/pubmed/25266070>

Ocampo PS, Lazar V, Balazs B et al. (2014) **Antagonism between Bacteriostatic and Bactericidal Antibiotics Is Prevalent.** *Antimicrobial Agents and Chemotherapy* 58(8) 4573-4582 <http://www.ncbi.nlm.nih.gov/pubmed/24867991> <http://aac.asm.org/content/58/8/4573.full>

[International Lyme and Associated Diseases Society](http://www.guidelines.gov) (2004 /2014) **Evidence assessments and guideline recommendations in Lyme disease: the clinical management of known tick bites, erythema migrans rashes and persistent disease.** <http://bit.ly/2tqnaGU> <https://www.guidelines.gov/summaries/summary/49320/evidence-assessments-and-guideline-recommendations-in-lyme-disease-the-clinical-management-of-known-tick-bites-erythema-migrans-rashes-and-persistent-disease?q=lyme+disease>

Perronne C. (2015) **Critical review of studies trying to evaluate the treatment of chronic Lyme disease.** *Presse Med.*, <http://dx.doi.org/10.1016/j.lpm.2015.06.002> <http://www.ncbi.nlm.nih.gov/pubmed/26206701>

France Lyme (2015) **CONTROVERSE AUTOUR DE LA MALADIE DE LYME** <http://www.francelyme.fr/Documents/controverse.pdf>

Hansmann Y, Cazenave-Roblot F, Weinbreck P (2015) **Maladie de Lyme : où est la controverse ?** <http://www.sciencedirect.com/science/article/pii/S0755498215003073>

Borgermans L, Perronne C, Balicer R, Polasek O, Obsomer V (2015) **Lyme disease: time for a new approach?** *BMJ.* 351, h6520. doi: 10.1136/bmj.h6520. <http://www.ncbi.nlm.nih.gov/pubmed/26634936> [https://www.researchgate.net/publication/285630460\\_Lyme\\_disease\\_time\\_for\\_a\\_new\\_approach](https://www.researchgate.net/publication/285630460_Lyme_disease_time_for_a_new_approach) <http://www.bmj.com/content/351/bmj.h6520/rapid-responses>

Huismans BD (2017) **Chronic Inflammatory Disorders. Multisystem diseases caused by pathogens.** [http://www.kabilahsystems.de/ko-erreg\\_eupd1.pdf](http://www.kabilahsystems.de/ko-erreg_eupd1.pdf)

- ➔ **Bakterien Pleomorphie** <http://www.erlebnishaft.de/stressvar1.pdf>  
<http://www.erlebnishaft.de/stressvar2.pdf>
- ➔ **Gen Dynamik** [http://www.xerlebnishaft.de/gen\\_dynamik.pdf](http://www.xerlebnishaft.de/gen_dynamik.pdf)

## **Antibiotika und die Bakterien-Ökologie. Antibiotics and the bacterial ecology.**

Rashid MU (2013) **ECOLOGICAL IMPACT OF ANTIBIOTIC TREATMENT ON HUMAN NORMAL MICROFLORA.** Karolinska Institutet, Sweden. [http://publications.ki.se/xmlui/bitstream/handle/10616/41549/Thesis\\_Mamun-Ur%20Rashid.pdf?sequence=2](http://publications.ki.se/xmlui/bitstream/handle/10616/41549/Thesis_Mamun-Ur%20Rashid.pdf?sequence=2)

Rashid MU, Panagiotidis G, Bäckström T, Weintraub A, Nord CE. (2013) **Ecological impact of doxycycline at low dose on normal oropharyngeal and intestinal microflora.** Int J Antimicrob Agents 41, 352-7. <http://www.ijaaonline.com/article/S0924-8579%2812%2900451-7/abstract>

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Birger RB, Kouyos RD, Cohen T (2015) **The potential impact of coinfection on antimicrobial chemotherapy and drug resistance.** Trends on Microbiology. doi:10.1016/j.tim.2015.05.002 <http://www.sciencedirect.com/science/article/pii/S0966842X15001067>

### Standard-Medikamente und ihre Wirkweise. Standard medications and how they work.

Drugs	Mechanisms of action
<u>Methylxanthines</u> : Pentoxifyllin	<u>Immunomodulating agents</u>
Antiarrhythmics: Amiodaron, Dronaderon. Calciumantagonist: <u>Verapamil</u>	Possible viral entry inhibitors
<u>Phenothiazines</u> : Chlorpromazine Methylenblue	Antibiotics
Inosin: <u>Inosiplex</u>	Antiviral agent
Red algae Griffithsia: <u>Griffithsin</u>	Antiviral agent, viral entry inhibitor <u>Komplement</u>
<u>Biogenic amines, polyamides and peptides</u> : <u>Spermidine</u> , L-arginine, N-acetylcysteine	Antibiotics
<u>Fatty acids</u> : Caprylic acid, Lauric acid	Antibiotics, antifungals, antivirals
<u>Polyphenoles</u> : Resveratrol, Taxifolin	Antivirals, Antibiotics

### Interferon, interferons

Snyder DT, Hedges JF, Jutila MA (2017) **Getting "Inside" Type I IFNs: Type I IFNs in Intracellular Bacterial Infections.** J Immunol Res. 2017, 9361802. doi: 10.1155/2017/9361802. Epub 2017 Apr 26. <https://www.ncbi.nlm.nih.gov/pubmed/28529959>

### Protease – Inhibitoren. Protease – inhibitors.

Abbenante G, Fairlie DP (2005) **Protease inhibitors in the clinic.** Med Chem. 1(1), 71-104. <https://www.researchgate.net/publication/6994239> Protease inhibitors in the clinic

### Kombinationen – Therapien, combination therapy

Hegreness M, Shoresh N, Damian D, Hartl D, Kishony R (2008) **Accelerated evolution of resistance in multidrug environments.** PNAS 105, 13977–13981. doi: 10.1073/pnas.0805965105. pmid:18779569 [View Article](#) [PubMed/NCBI](#) [Google Scholar](#)

Pena-Miller R, Laehnemann D, Jansen G, Fuentes-Hernandez A, Rosenstiel P, et al. (2013) **When the most potent combination of antibiotics selects for the greatest bacterial load: the smile-frown transition.** PLoS Biol 11, e1001540. doi: 10.1371/journal.pbio.1001540. pmid:23630452 [View Article](#) [PubMed/NCBI](#) [Google Scholar](#)

Fuentes-Hernandez A, Plucain J, Gori F, Pena-Miller R, Reding C, Jansen G, et al. (2015) **Using a Sequential Regimen to Eliminate Bacteria at Sublethal Antibiotic Dosages.** doi:10.1371/journal.pbio.1002104

<http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002104>  
<http://www.ncbi.nlm.nih.gov/pubmed/25853342>

« ... whereas the ERY—DOX pairing has an established synergy [13,14].

Feng J, Auwaerter PG, Zhang Y (2015) **Drug Combinations against *Borrelia burgdorferi* Persists *In Vitro*: Eradication Achieved by Using Daptomycin, Cefoperazone and Doxycycline**. PLoSone. 0117207, 1-15 <http://www.ncbi.nlm.nih.gov/pubmed/25806811>  
“Daptomycin plus doxycycline and cefoperazone eradicated the most resistant microcolony form of *B. burgdorferi* persists and did not yield viable spirochetes upon subculturing, suggesting durable killing that was not achieved by any other two or three drug combinations”.

Richardson L (2015) **Alternating Antibiotics Render Resistant Bacteria Beatable**. PLoS Biol 13(4), e1002105. doi:10.1371/journal.pbio.1002105  
<http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1002105>  
“... but this study demonstrates that they can be effective even when using drug doses below their maximal potency.”

Ayhan DH, Tamer YT, Akbar M et al. (2016) **Sequence-Specific Targeting of Bacterial Resistance Genes Increases Antibiotic Efficacy**. PLoS Biol. 14(9), e1002552. doi: 10.1371/journal.pbio.1002552. eCollection 2016. <http://www.ncbi.nlm.nih.gov/pubmed/27631336>  
„Finally, we demonstrate that antisense oligomers improve the efficacy of antibiotic combinations, allowing the combined use of even antagonistic antibiotic pairs that are typically not favored due to their reduced activities“.

Feng J, Zhang S, Shi W, Zhang Y (2017) **Activity of Sulfa Drugs and Their Combinations against Stationary Phase *B. burgdorferi* *In Vitro***. *Antibiotics (Basel)*. 6(1). pii: E10. doi: 10.3390/antibiotics6010010. <https://www.ncbi.nlm.nih.gov/pubmed/28327498>

Muanda FT et al. (2017) **Use of antibiotics during pregnancy and risk of spontaneous abortion**. CMAJ 189(17), E625-E633. [Cited 2017 May 02] doi: 10.1503/cmaj.161020.  
<http://www.cmaj.ca/content/189/17/E625>  
« After adjustment for potential confounders, use of macro-lides (excluding erythromycin), quinolones, tetracyclines, sulfonamides and metronidazole during early pregnancy was associated with an increased risk of spontaneous abortion. »

- ➔ **Langzeit- und Kombinations-Therapie, longterm and combination therapy**  
[http://www.kabilahsystems.de/antibiotika\\_langzeit.pdf](http://www.kabilahsystems.de/antibiotika_langzeit.pdf)  
<http://www.kabilahsystems.de/rifampicin.pdf>  
[http://www.kabilahsystems.de/antibiotika\\_pulse.pdf](http://www.kabilahsystems.de/antibiotika_pulse.pdf)
- ➔ **Begleit-Therapie bei Patienten mit Multisystem- Multiinfektions- Krankheiten während einer Langzeit-Antibiose. Concomitant therapy in patients with multisystem Multi-bacterial and fungal diseases during long-term antibiosis**  
<http://www.kabilahsystems.de/kommentmedbegleittherapie.pdf>
- ➔ [19th WHO Model List of Essential Medicines](#) (April 2015)
- ➔ [5th WHO Model List of Essential Medicines for Children's](#) (April 2015)

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