

# Bee Venom Therapy (BVT) for Chronic Lyme Disease

Dietrich D. Klinghardt MD, PhD

# LYME BORRELIOSIS:



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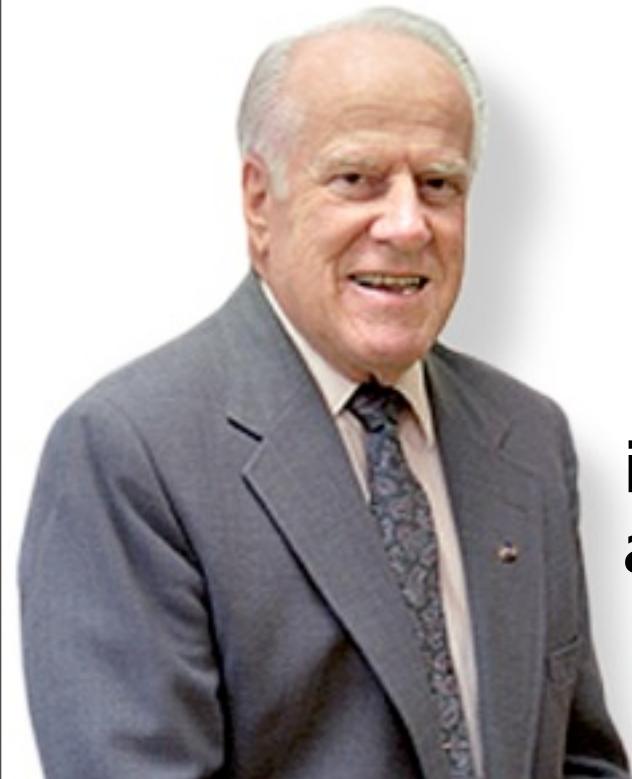
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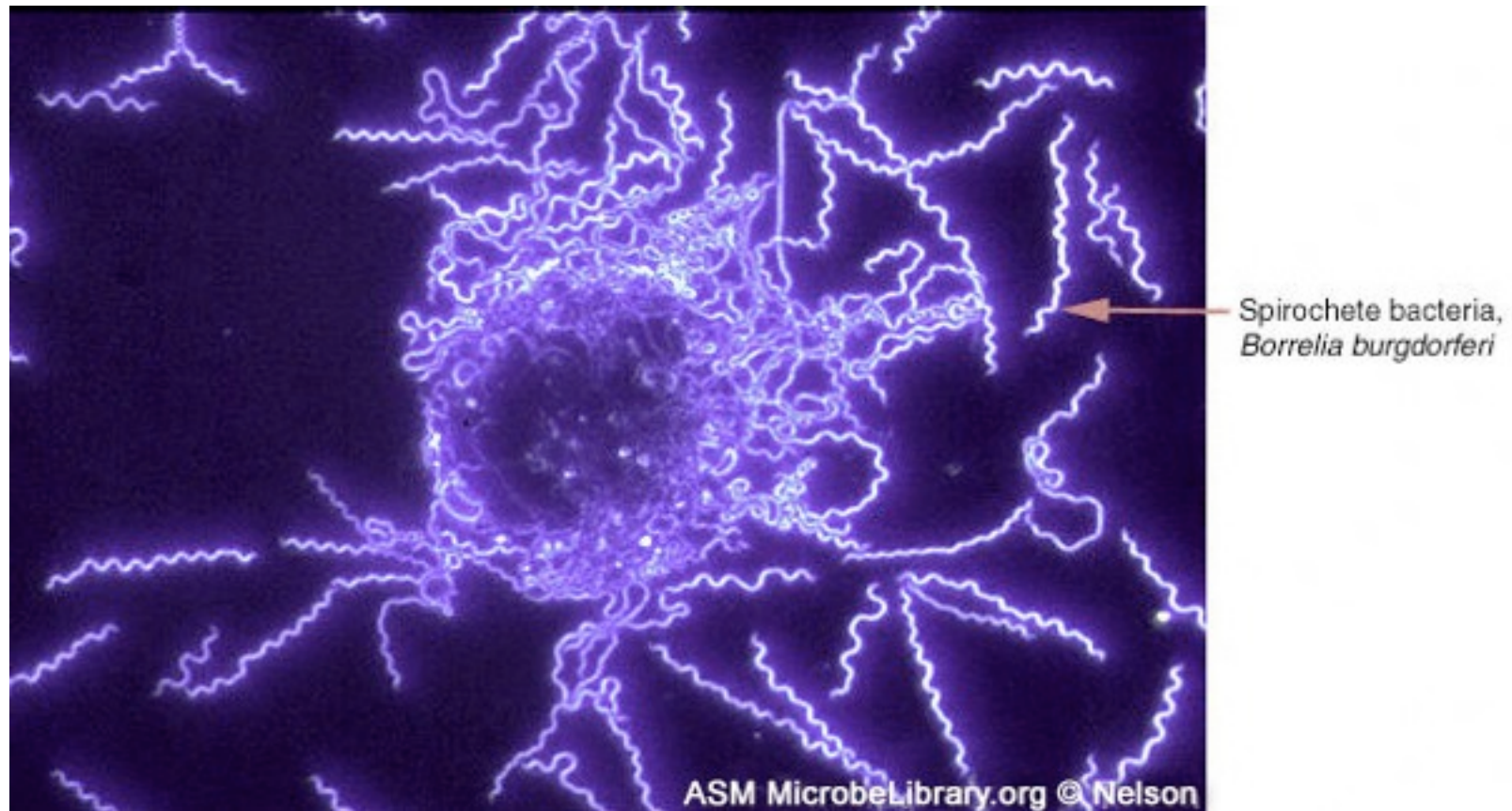
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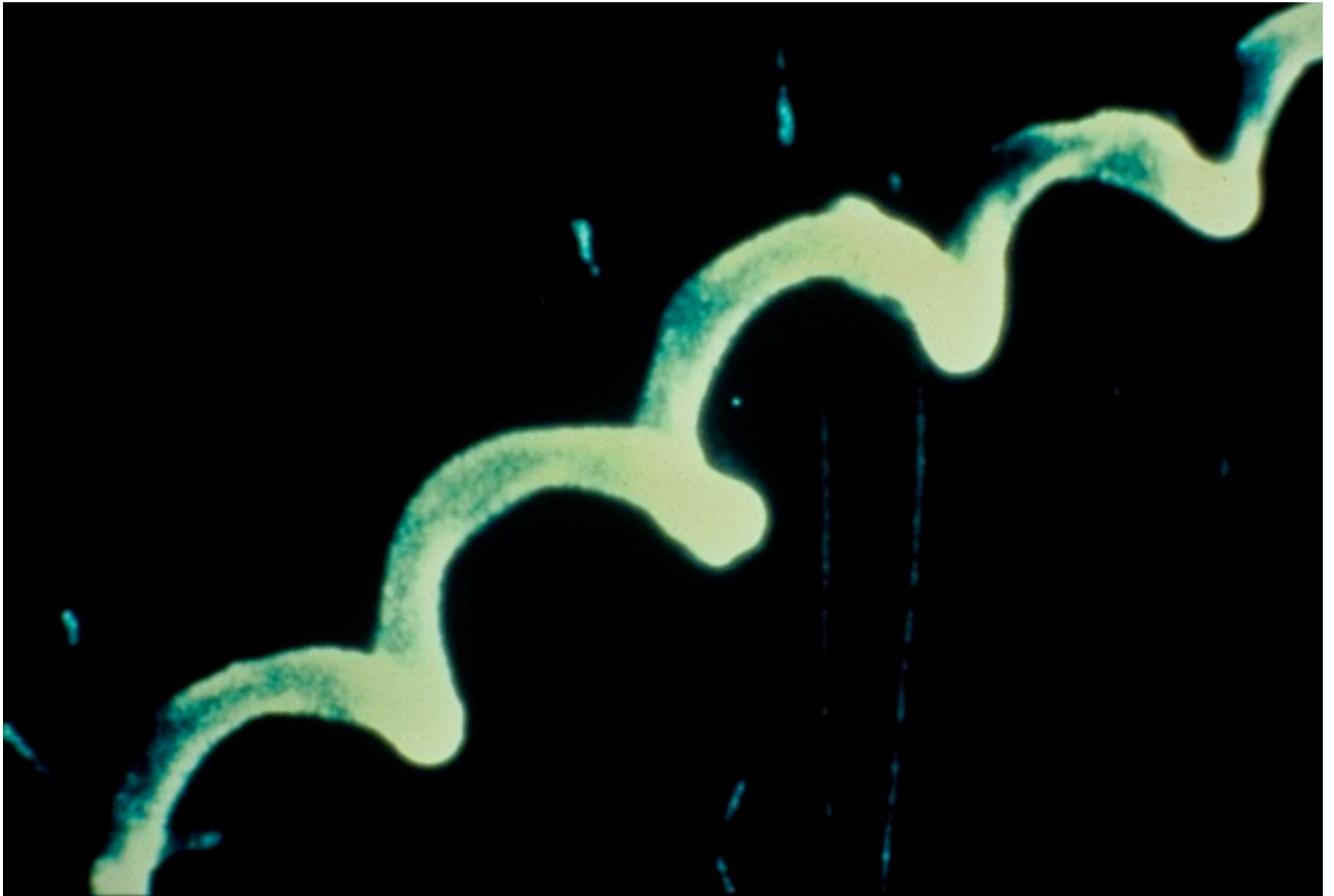
1982, Willy Burgdorfer identifies the etiological agent, a *Borrelia spirochete*



Sunday, 12 September 2010



Morphology of *Borrelia burgdorferi*. Dark field image © Jeffrey Nelson, Rush University, Chicago, Illinois and [The MicrobeLibrary](http://TheMicrobeLibrary.org)



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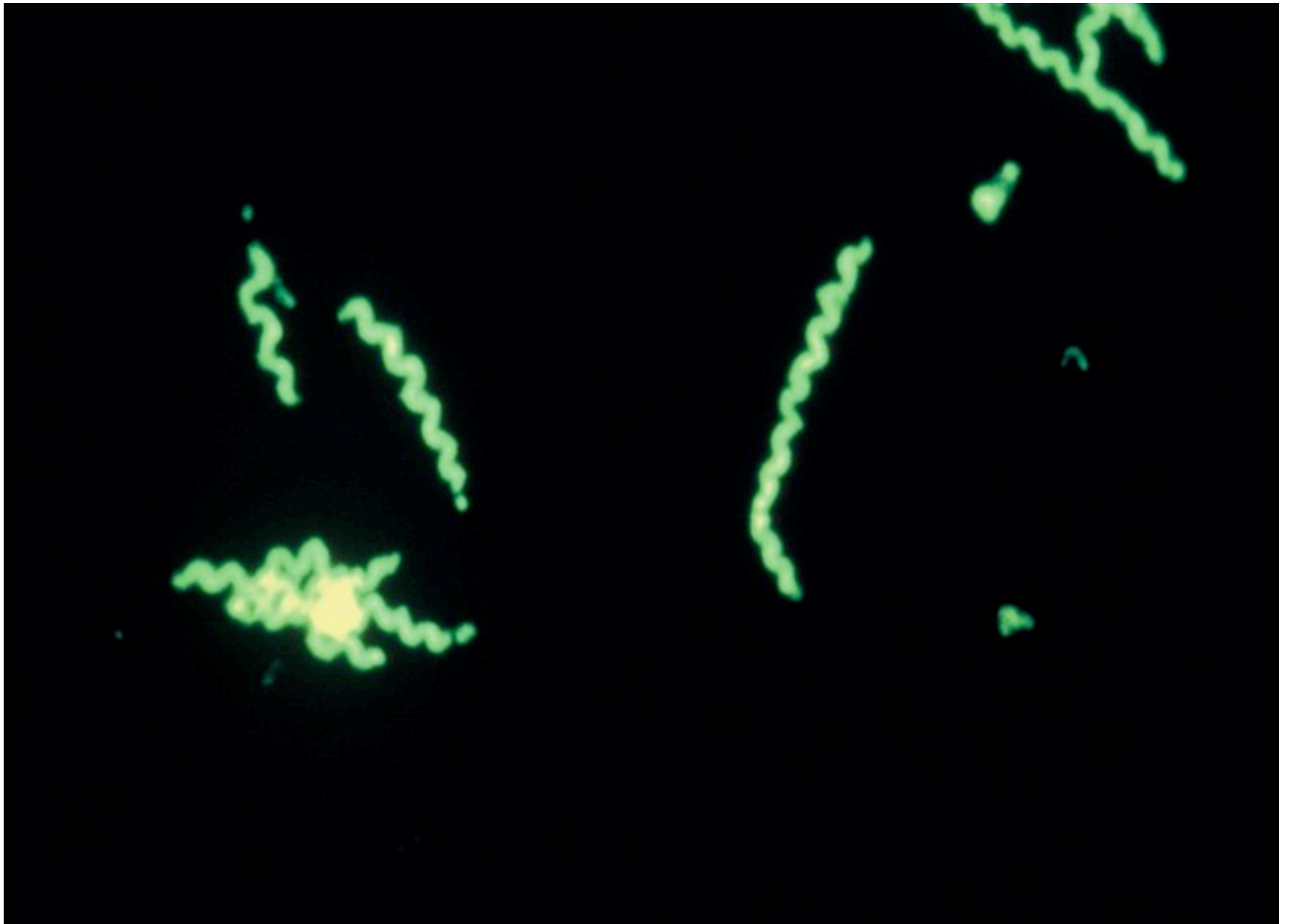


# Symptoms of Lyme Disease are non-specific

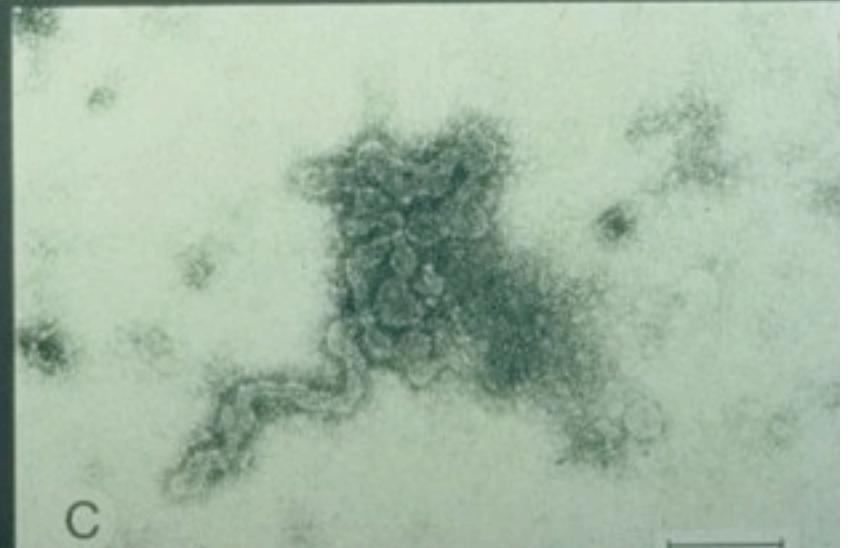
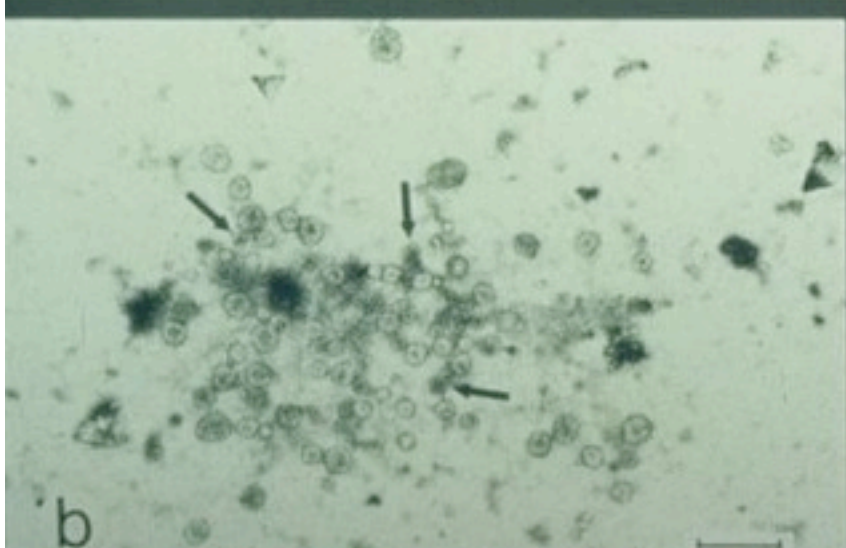
- Fatigue and/or insomnia
- Lack of zest, blunting of the senses
- short-term memory loss
- Fibromyalgia and any/or type of pain condition
- Multiple chemical sensitivity, food allergies, electro-sensitivity
- Immune deficiency and hyper immunity/autoimmunity
- Strange neurological symptoms (buzzing, fasciculations, tinnitus)
- eye floaters , dry/wet macula degeneration
- Recurrent relationship problems, poor decision making in business
- Low grade depression to severe psychiatric presentations
- GERD and all other digestive disorders
- Low exercise tolerance
- Cardiac dysrhythmia, angina, diastolic filling defect
- Inability to detoxify (i.e.mercury or lead toxicity)
- induced HPU
- Premature aging
- Oxidative stress
- Neuronal death from potent biotoxins and self-generated peroxynitrite

# What can the clinical state of the infection mimic?

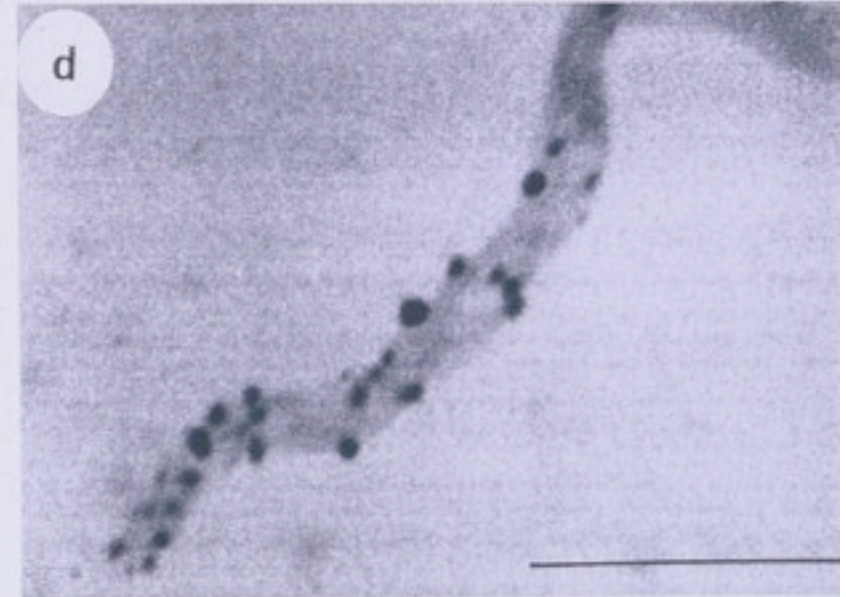
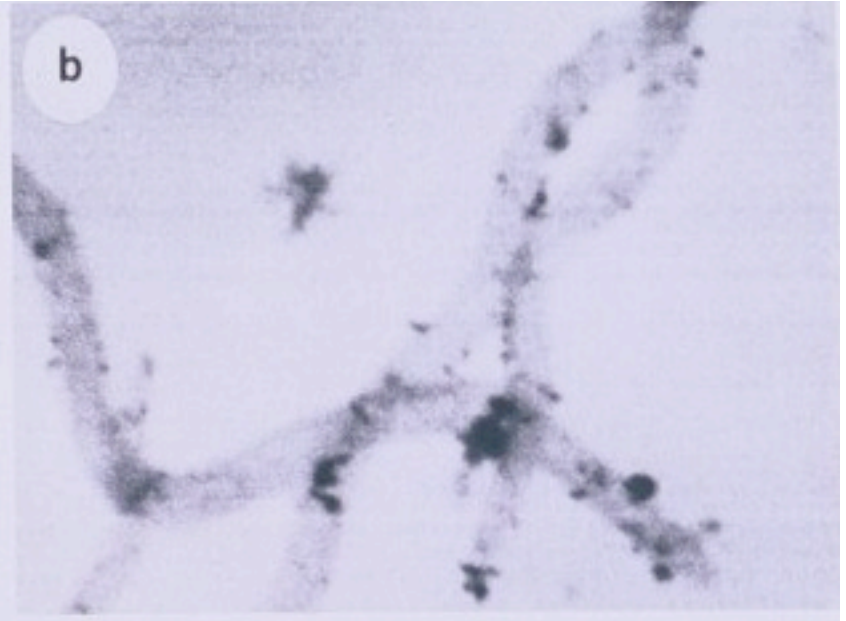
- Schizoaffective disorder
- Multiple sclerosis
- Amyotrophic lateral sclerosis
- Alzheimers disease
- Parkinsons Disease
- Thyroid disease
- Hyperparathyroidism
- Hyperlipedemia
- Coagulation disorder
- Insulin resistance
- Lupus
- Rheumatoid arthritis
- Polmyalgia rheumatica
- osteoarthritis
- CFIDS
- Fibromyalgia
- Multiple Chemical Sensitivity
- Bipolar disorder
- Hypoadrenia and Addisons disease



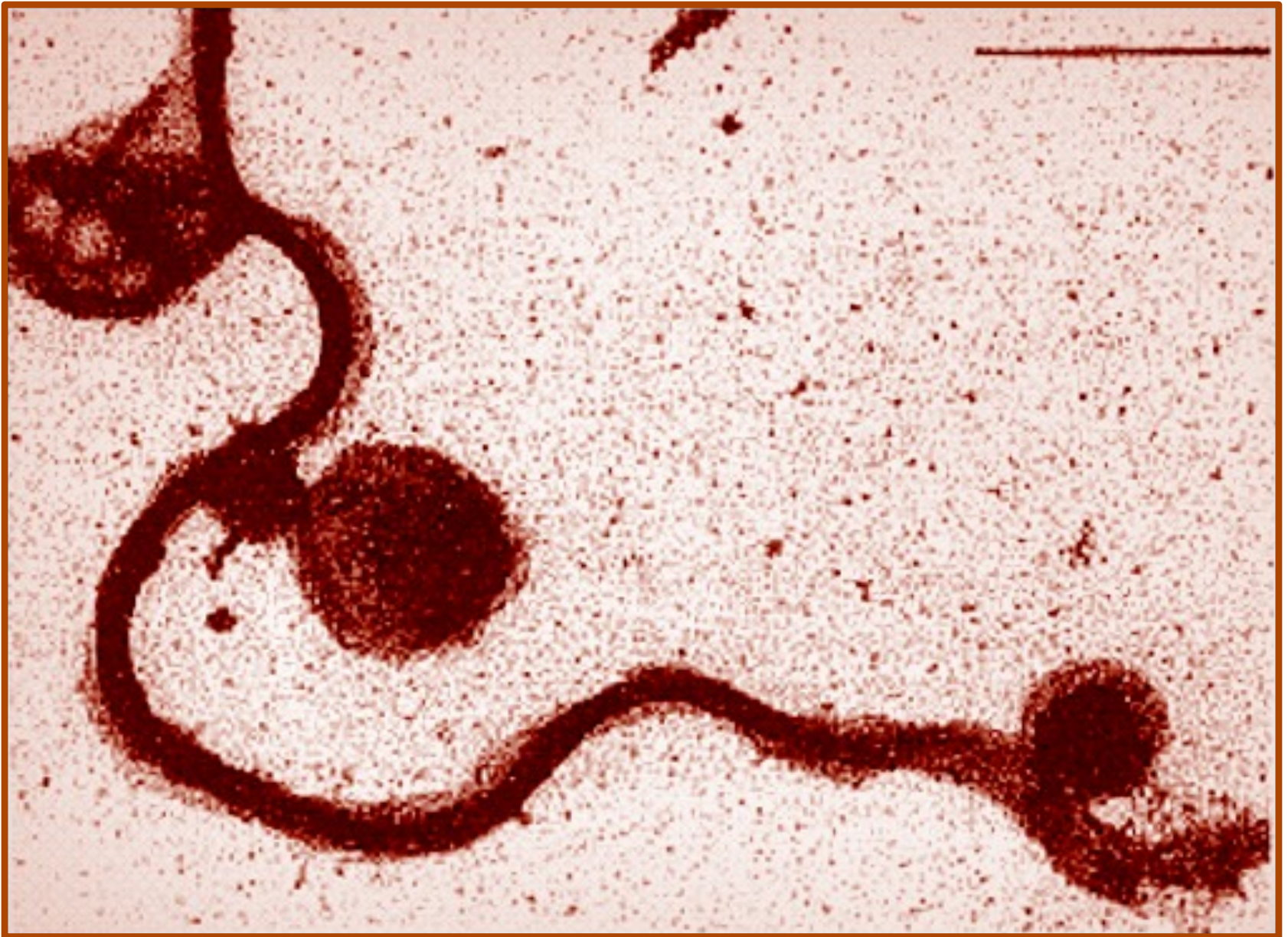
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# LYME BORRELIOSIS: TRANSMISSION





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- Mosquitos , fleas, stinging flies (horse flies), spider bites



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- Trans–placental transfer to the fetus
- Breast feeding
- Food
- Saliva (kissing), contaminated utensils and telephones

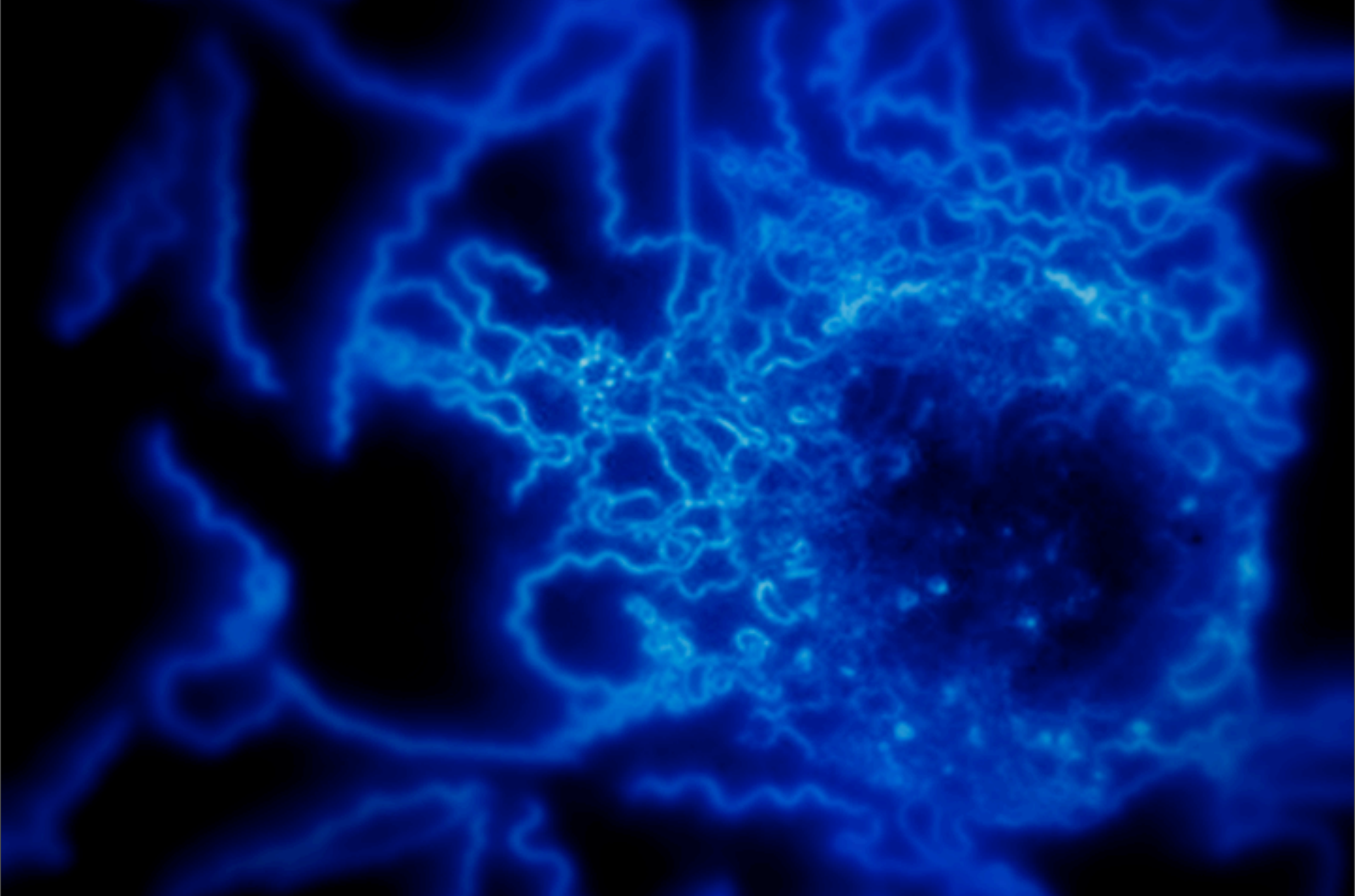
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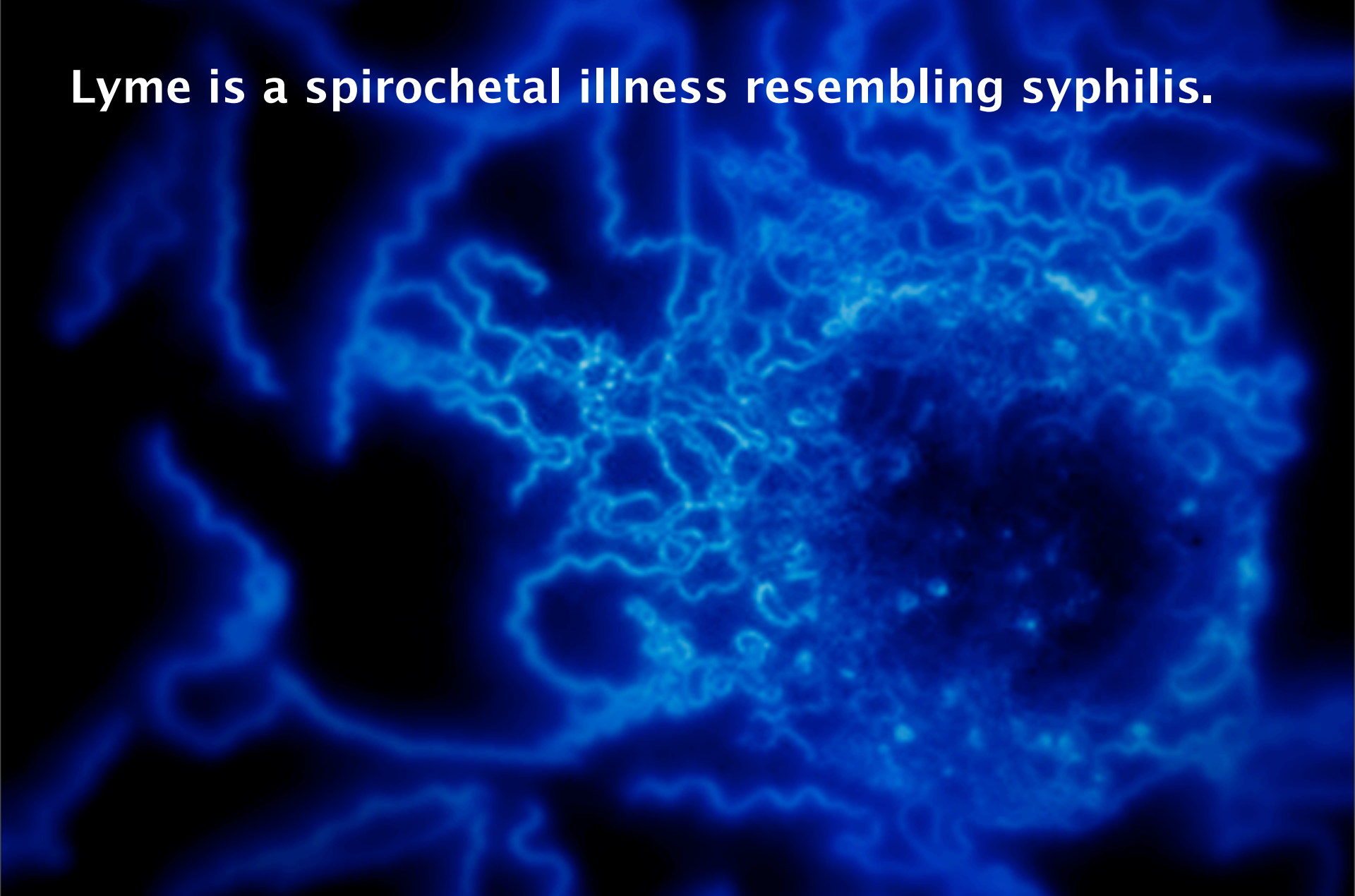
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Can mimic MS, myelopathy,  
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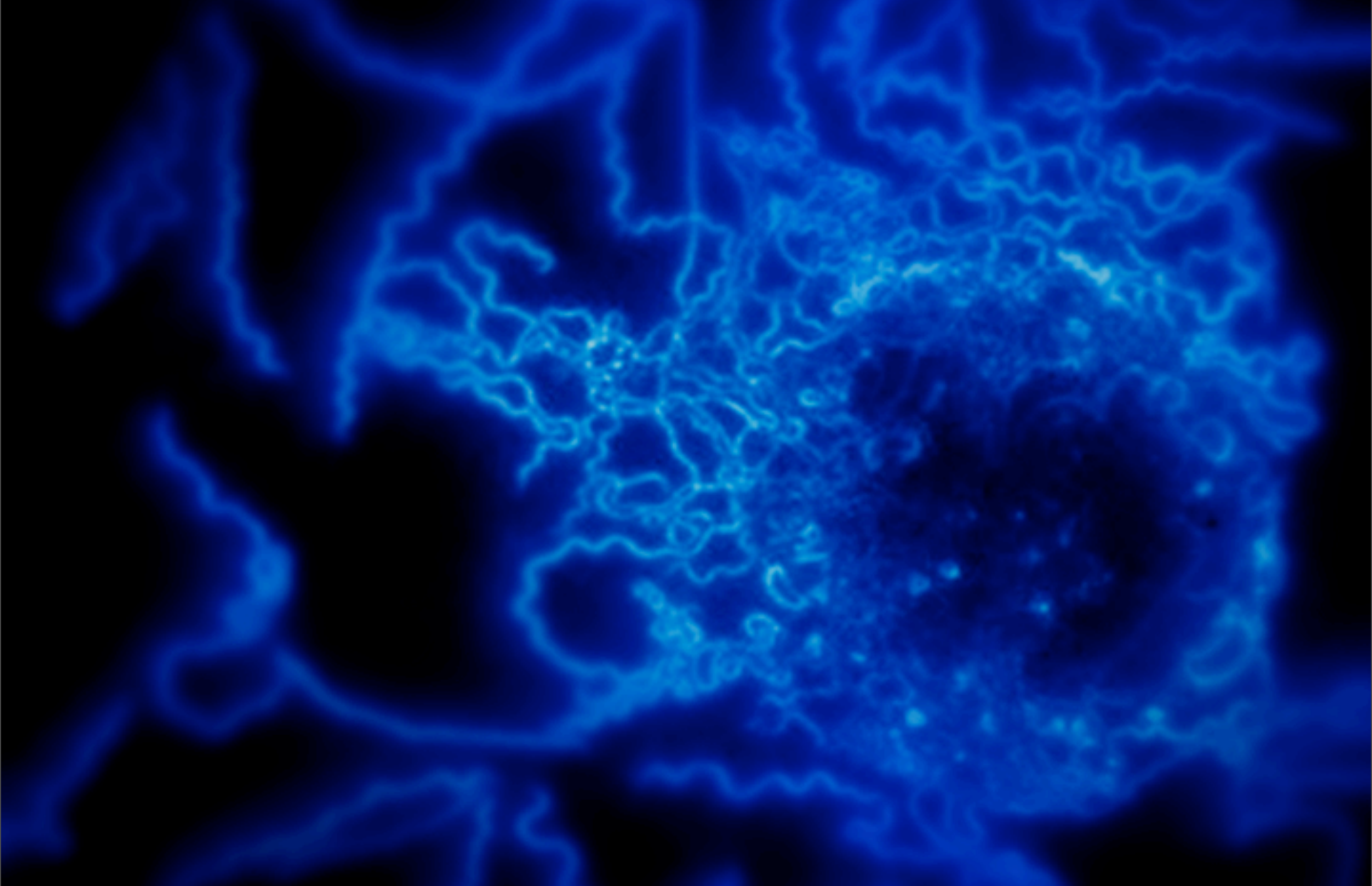
(*Neurosurgery*. 1992 May; 30(5):769-73)

Can cause meningitis,  
encephalitis,  
neuritis, mania,  
depression, OCD,  
schizophrenia, anorexia, dementia.

(*Am J Psychiatry*. 1994 Nov; 151(11):1571-83)



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(Informal study by American Lyme Disease  
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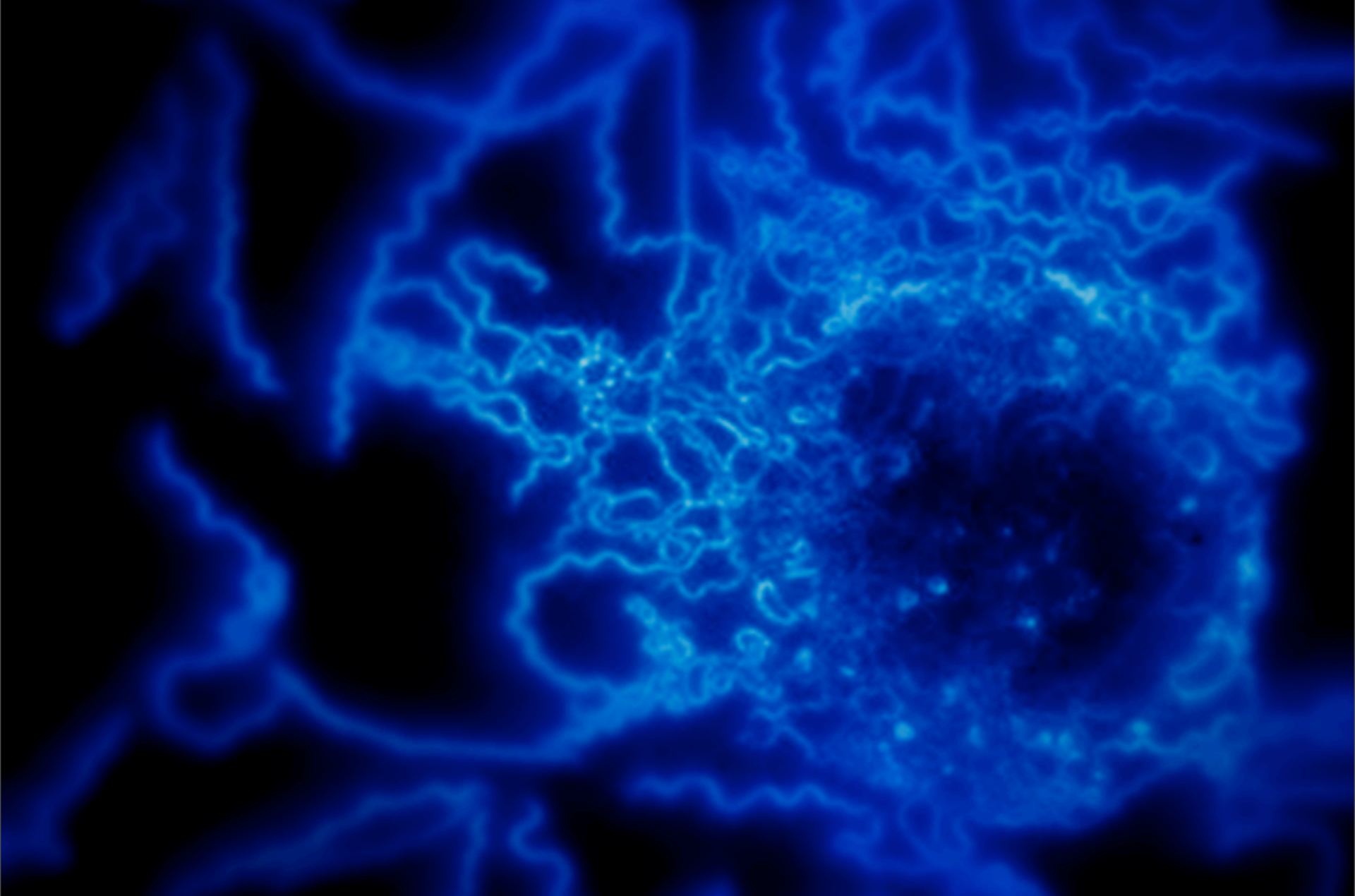
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**Borrelia can cause Parkinsonism**

(Arch.of Path.& Lab.Med.127(9):1204-6)

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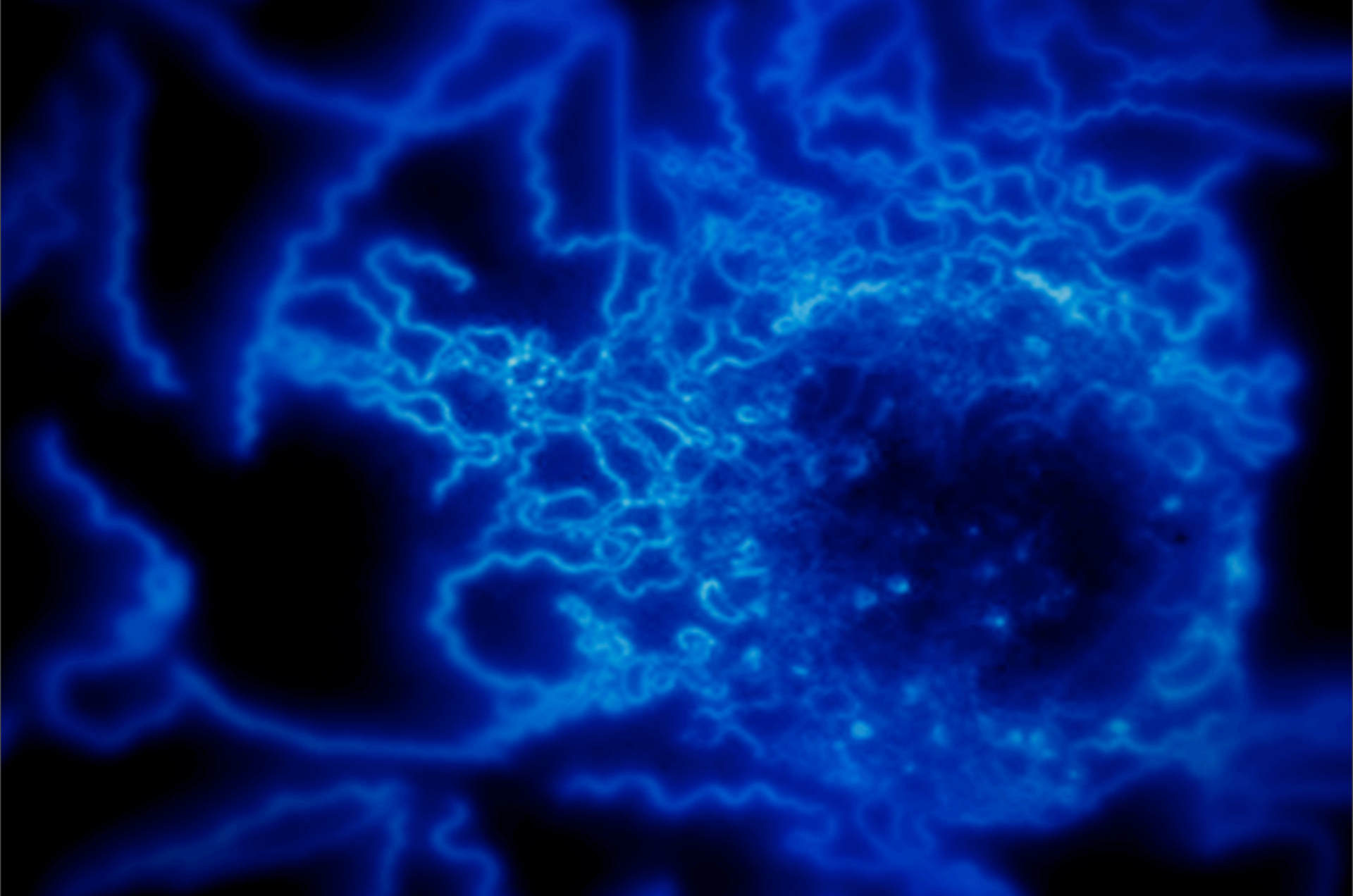
(Z Rheumatol. 2003 Oct; 62(5): 450-8)

**Borrelia may cause  
sarcoidosis**

(Chin Med J. 1992 Jul; 105(7): 560-3)



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**Lyme can cause cardiomyopathy,  
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**Fetal borrelia can cause  
fetal death, growth  
retardation, cardiac  
anomalies, hydrocephalus,  
blindness, neonatal resp.  
distress, SIDS  
and toxemic pregnancy.**

**(Rheum Dis Clin North Am.1989 Nov;15(4):657-77)**



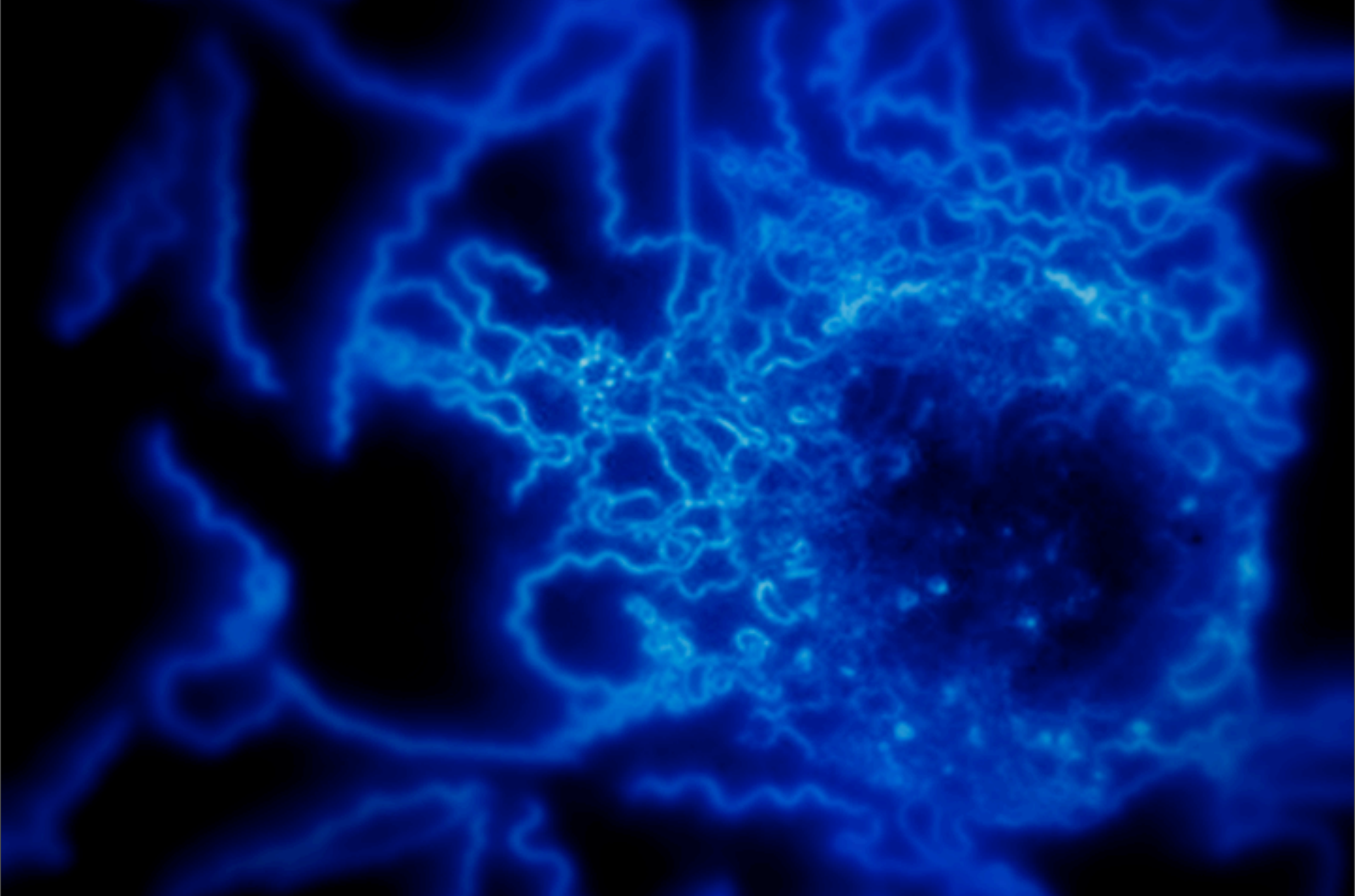
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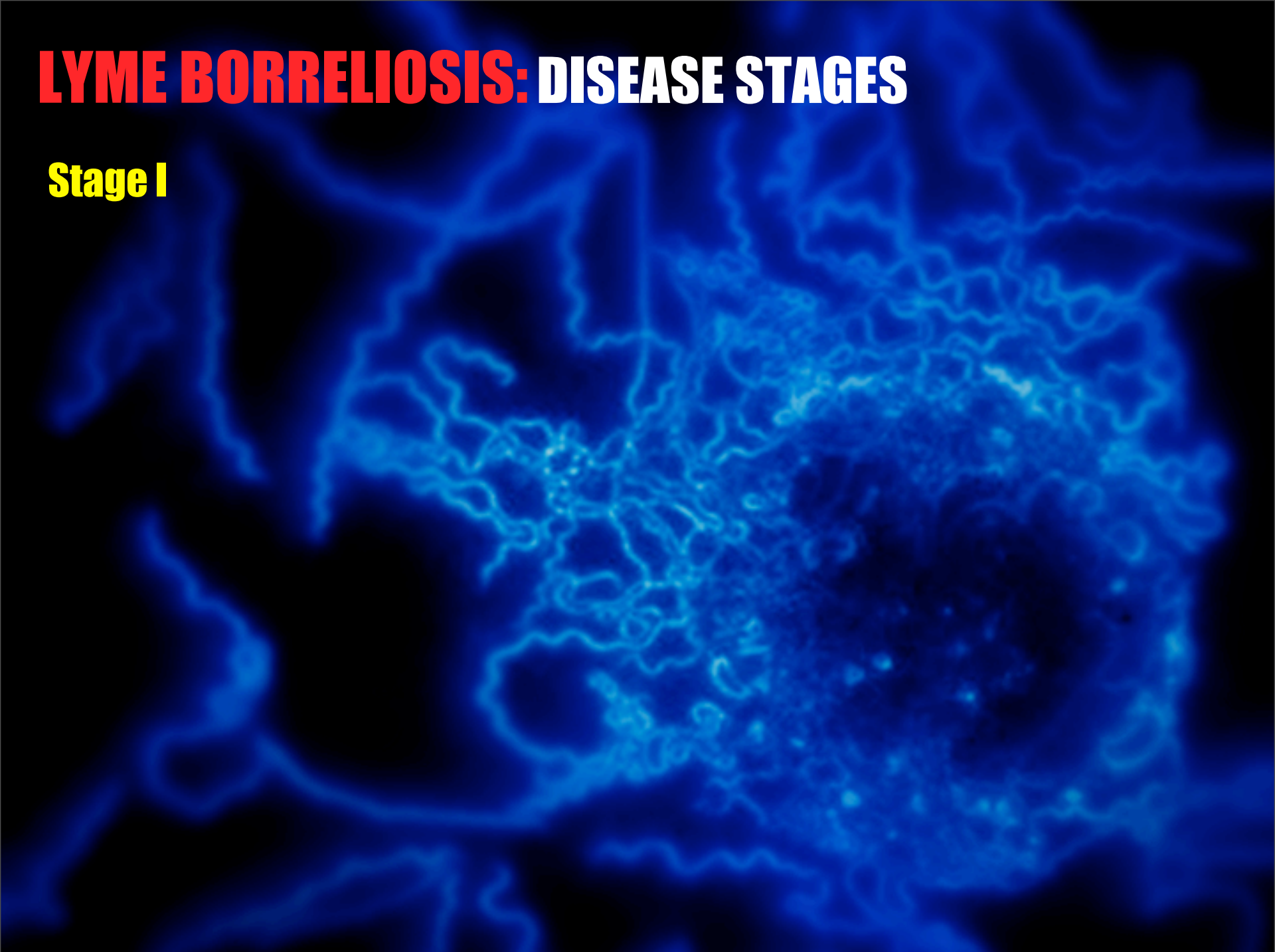


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**Stage 3** (often after many years of milder illness)

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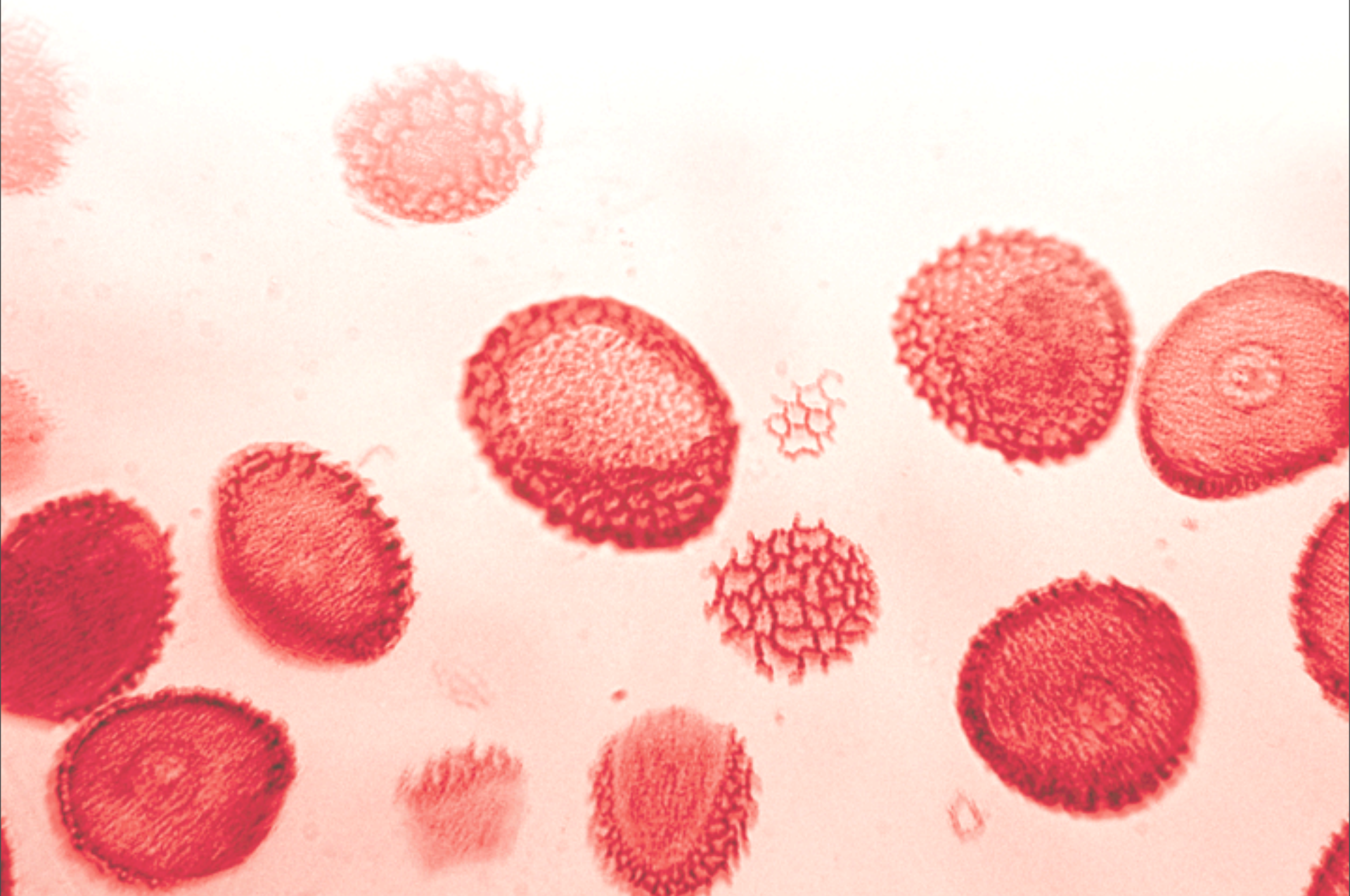
**Muscle aches, fatigue, joint pain, “migratory arthritis”, meningitis, loss of appetite**

**Stage 3 (often after many years of milder illness)**

**Severe chronic neurological symptoms, profound fatigue, memory loss, severe pain, depression, psychosis, etc.**

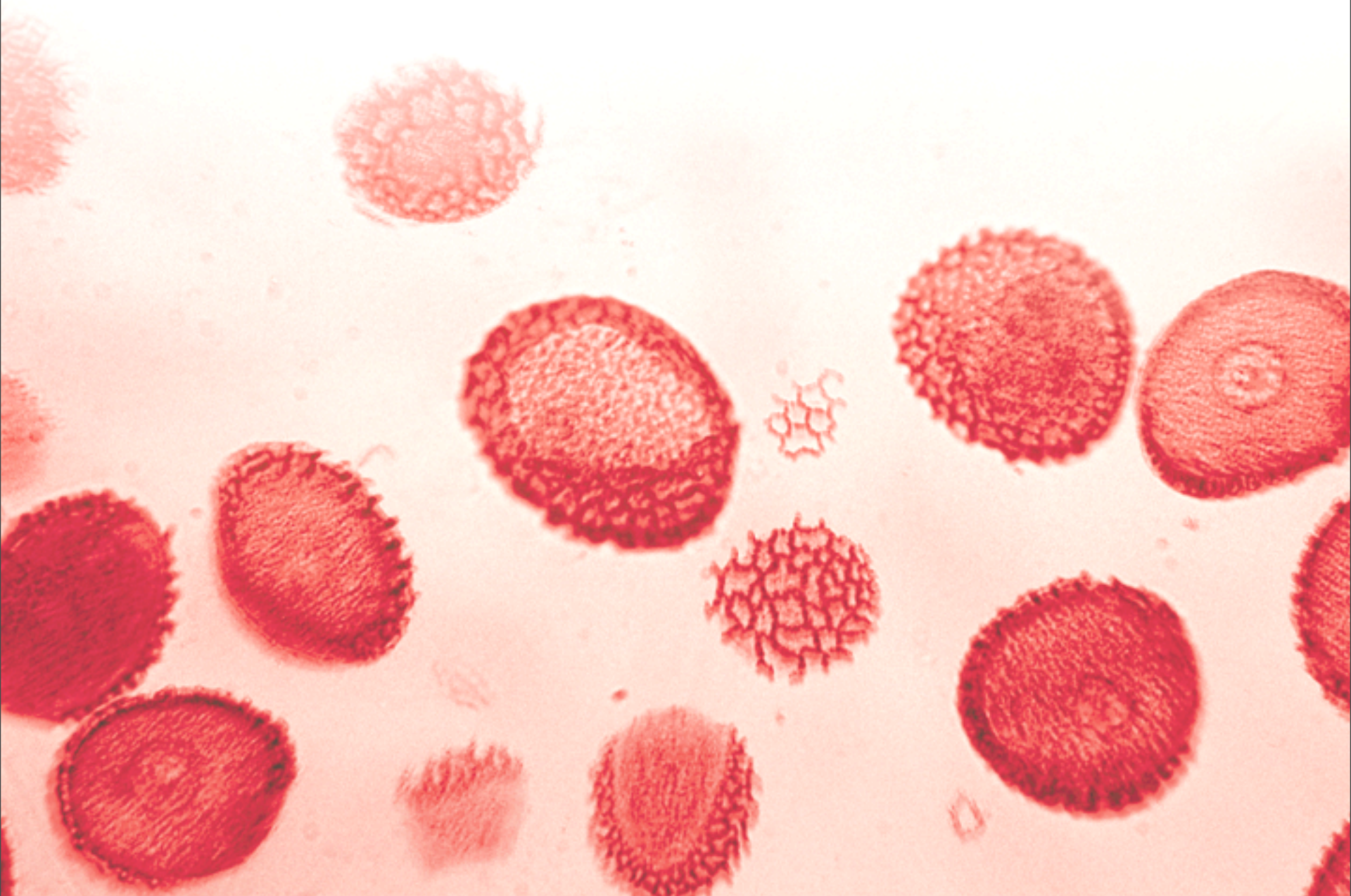


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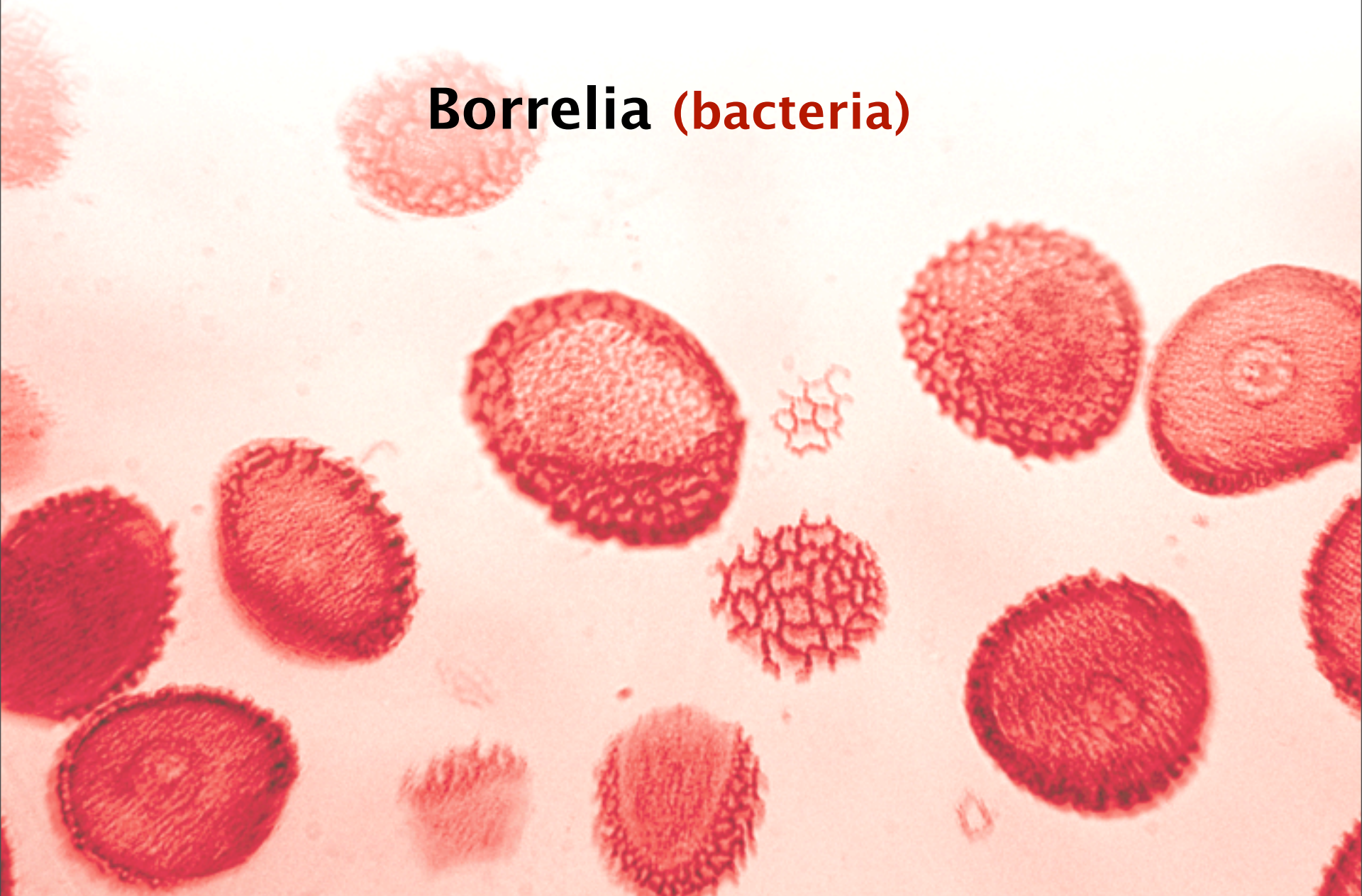
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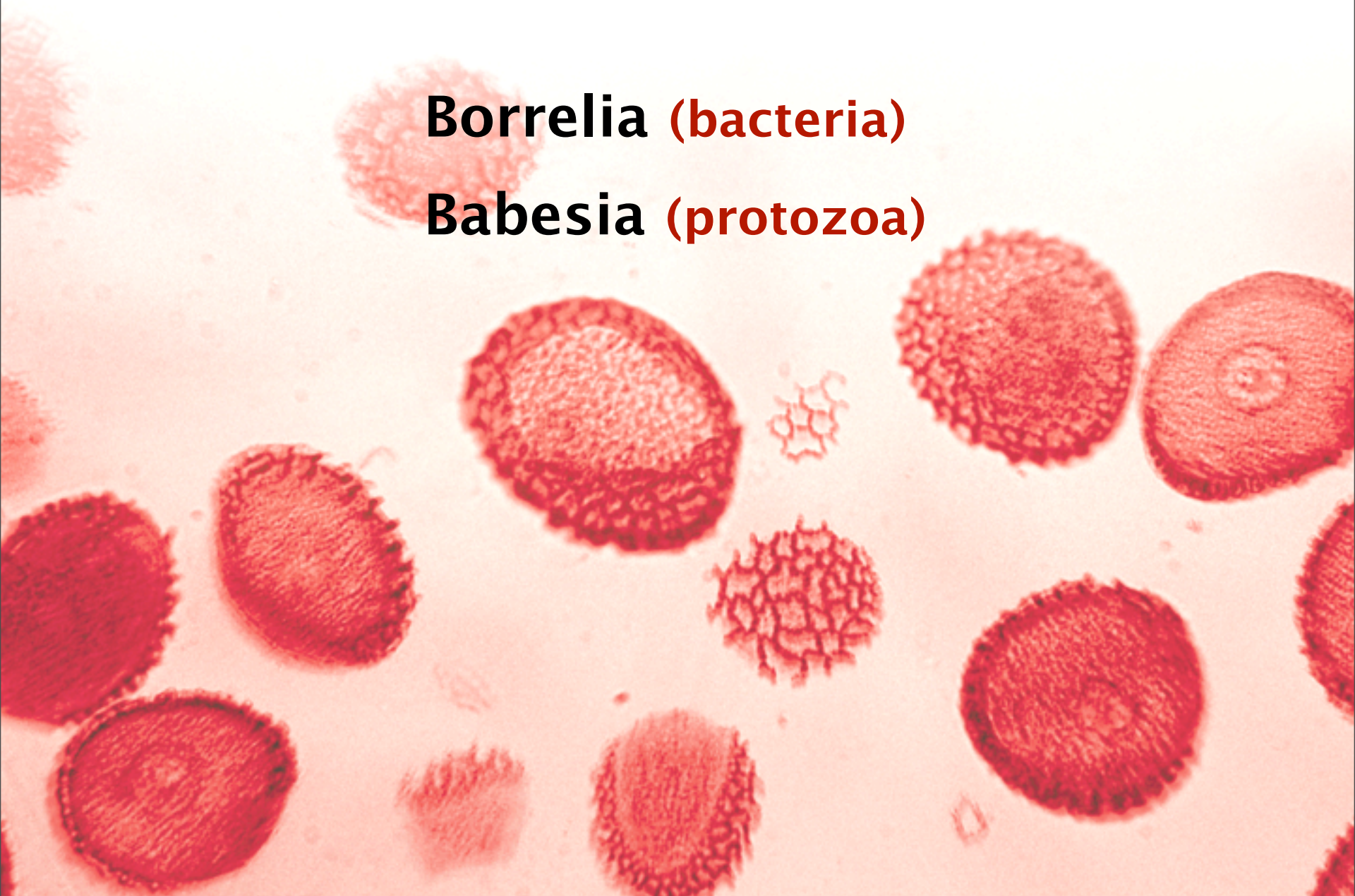




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**Borrelia (bacteria)**

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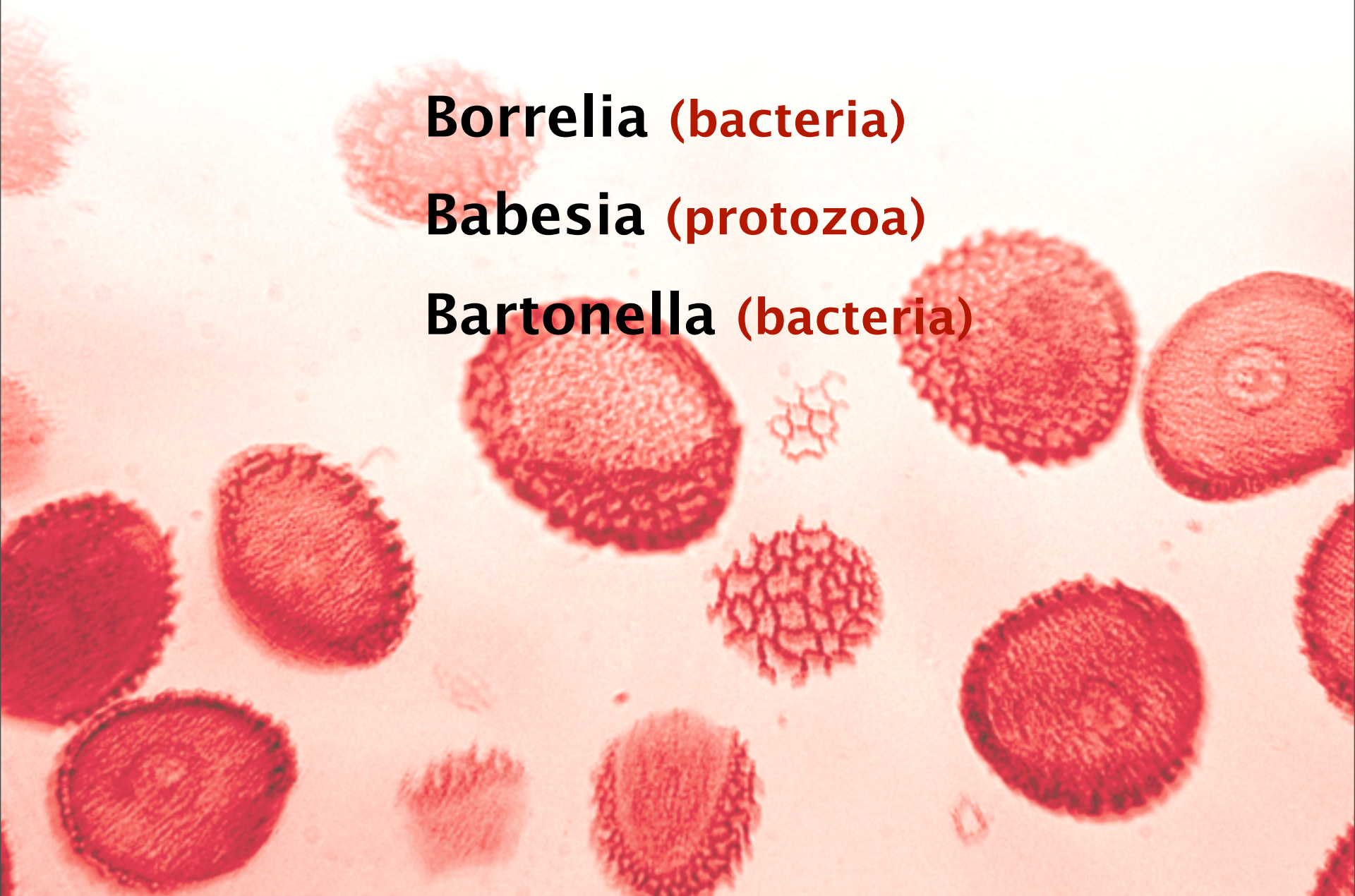


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**Borrelia (bacteria)**

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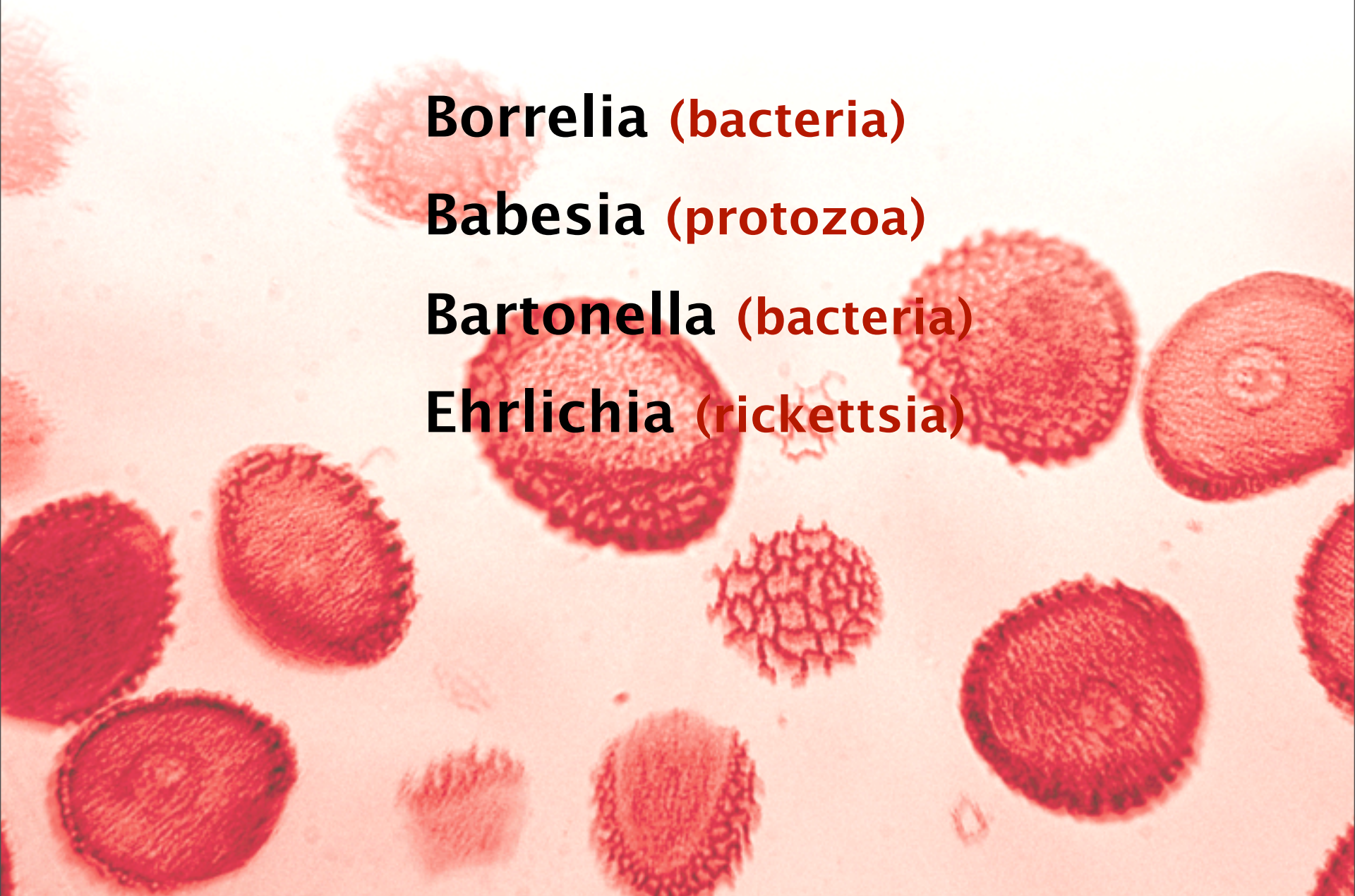
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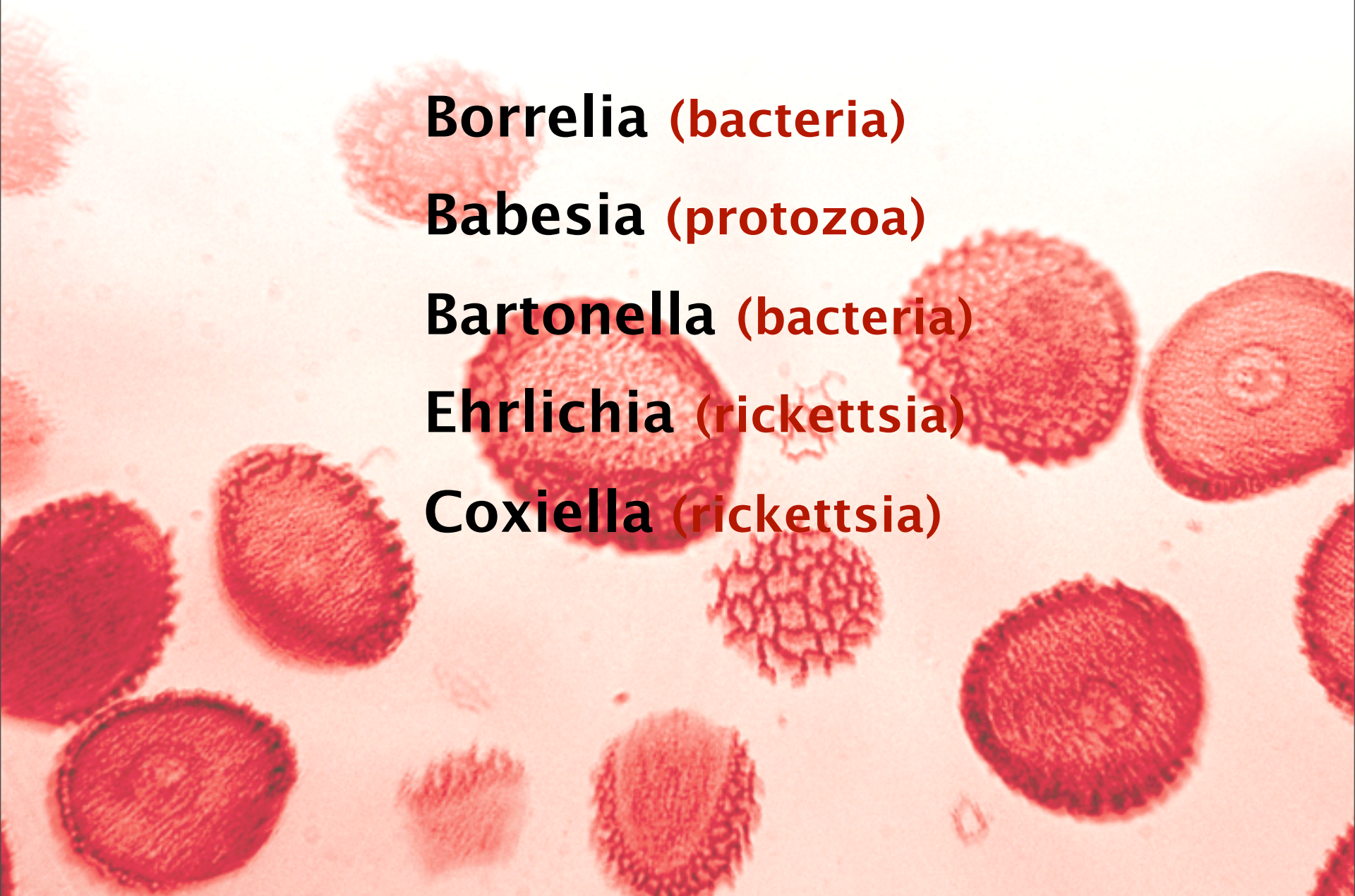
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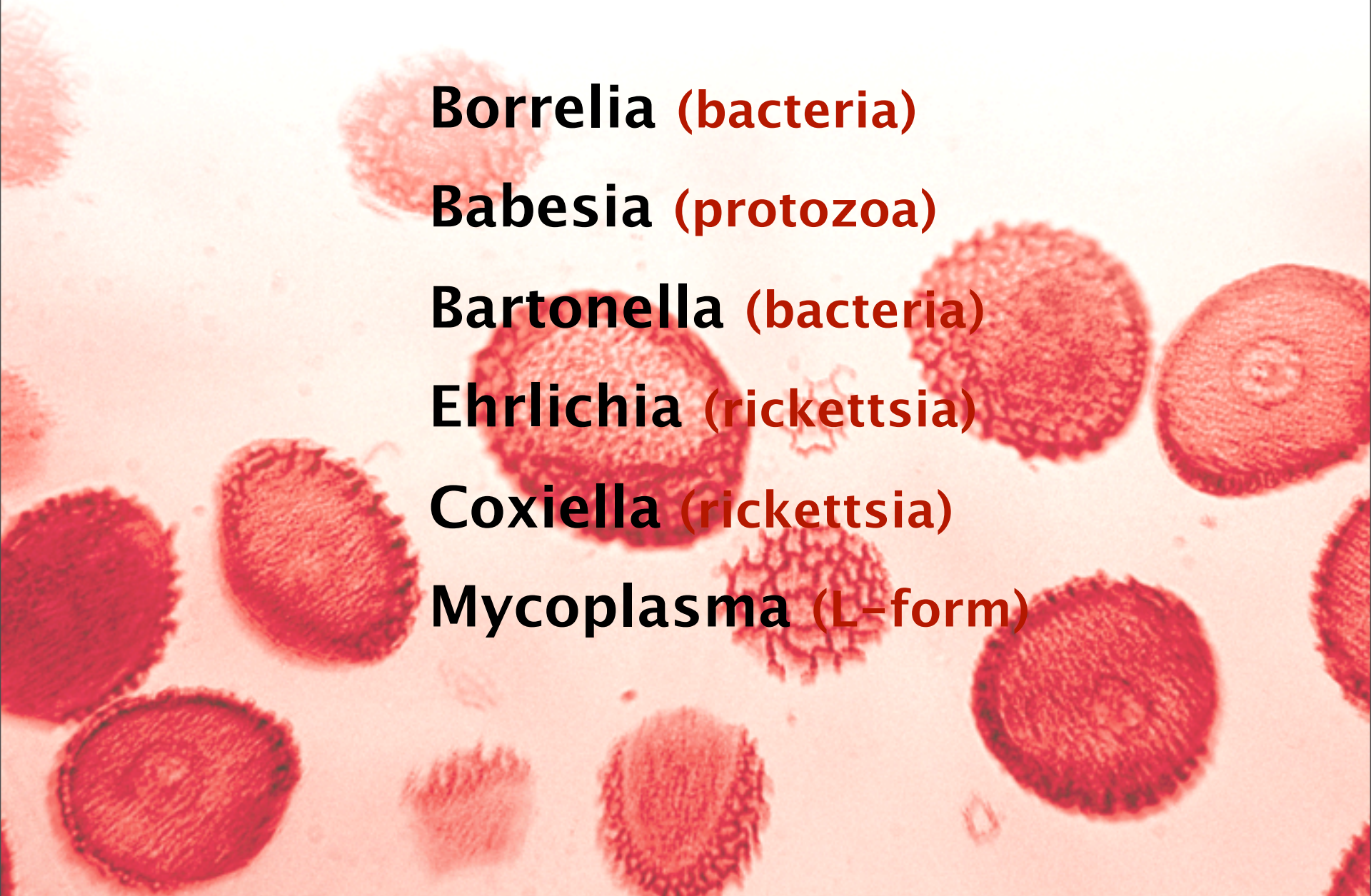
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**Mycoplasma (L-form)**





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**Babesia (protozoa)**

**Bartonella (bacteria)**

**Ehrlichia (rickettsia)**

**Coxiella (rickettsia)**

**Mycoplasma (L-form)**

**Viruses (HHV-6, CMV, EBV,  
Borna, XMRV)**

# LYME BORRELIOSIS:



# LYME BORRELIOSIS: DORMANCY & ACTIVATION





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**Years can pass before symptoms appear  
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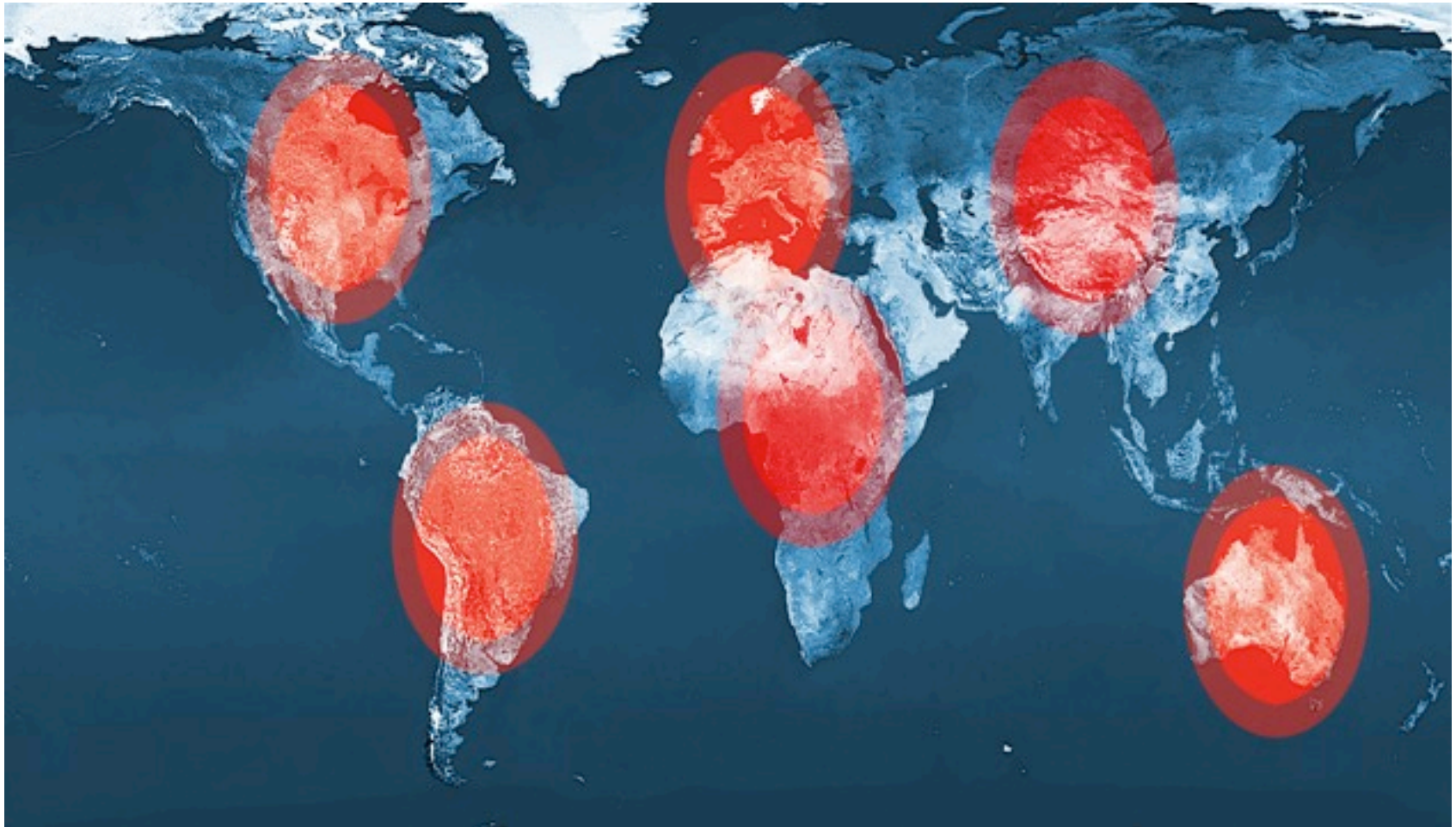
**All asymptomatic carriers of Borrelia are at risk of developing symptomatic Lyme borreliosis**

**Immune suppression by stress may cause activation**









**Dr. Andrew Wright, medical researcher in the United Kingdom, believes that the majority of chronic conditions are Lyme related.**

# Differential Diagnosis

- Heavy metal toxicity
- Environmental illness (toxicity and allergy)
- Mold / Mycotoxin exposure
- Lyme disease, co- infection or other infection



# Making the diagnosis

- Direct microscopy (*www.Bowen.org*, [www.BradfordResearchInst.org](http://www.BradfordResearchInst.org))
- Detection of antibodies (ELISA, Western Blot)
- Lymphocyte proliferation tests (MELISA and LTT)
- CD 57 Stricker panel
- Symptoms and history
- Neurological/physical findings
- ART testing ([www.neuraltherapy.com](http://www.neuraltherapy.com), *www.INK.ag*)
- Indirect tests (FACT, different lab parameters)
- History of an insect bite

# Three pathogenic types of *Borrelia* spirochetes – all respond differently to anti-microbials

- *Borrelia garinii*
- *Borrelia afzelii*
- *Borrelia burgdorferi* (Bb)

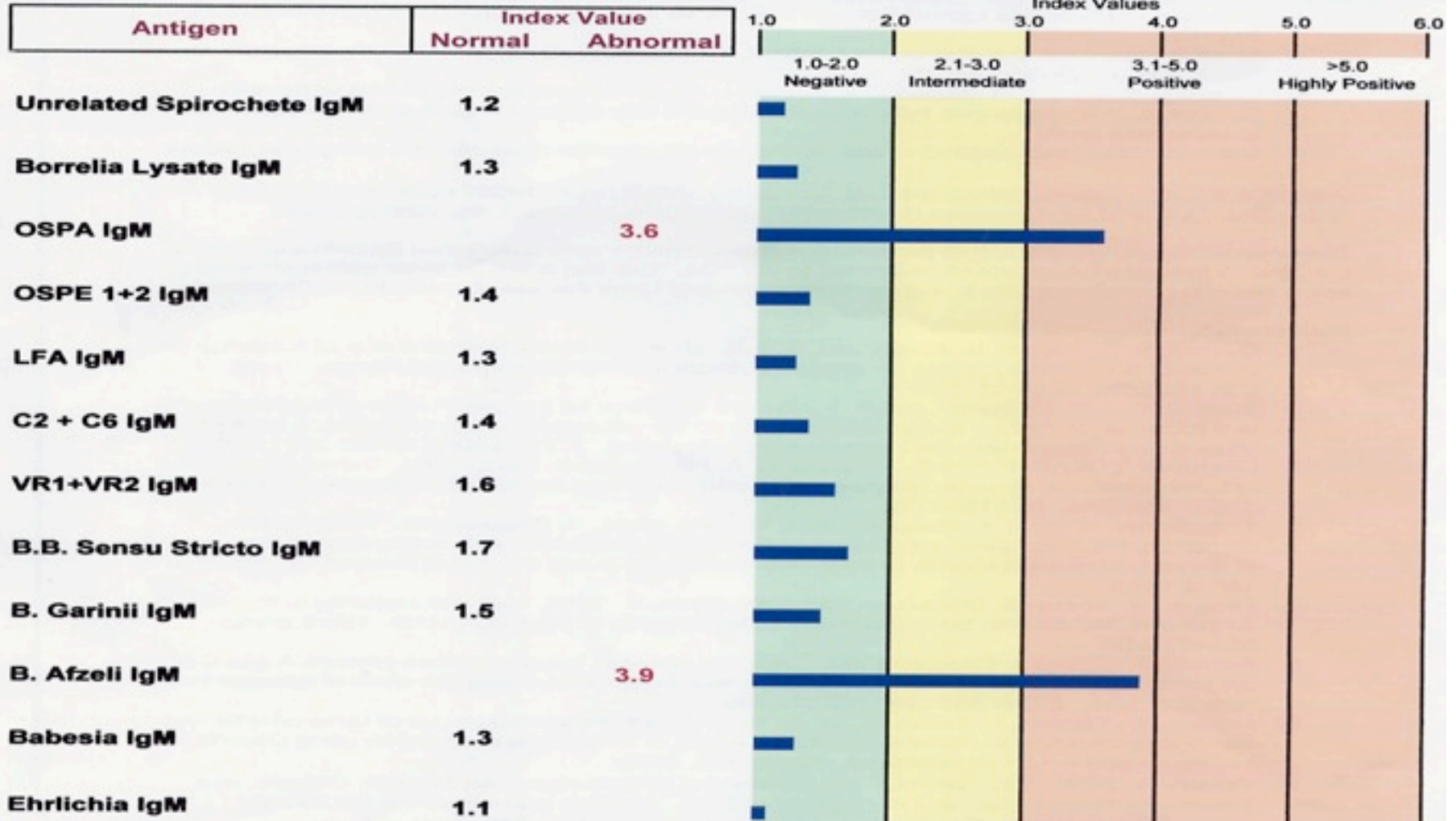
*Borrelia burgdorferi* group: in-vitro antibiotic sensitivity: Orv Hetil, 2002 May 26; 143 (21): 1195-8 (article in Hungarian), JP Henneberg, U Neubert –department of dermatology, Ludwig-Maximillian University, Munich, Germany



Patient Name: **Klinghardt, Dietrich**  
Report Number: **175056**  
Blood Drawn: **12/21/2004**  
Date Reported: **1/14/2005**

Clinic:  
**Klinghardt, Dietrich**  
**1200-112th Avenue, NE, Suite a-100**  
**Bellevue WA 98104 USA**

## IgM Antibodies to *Borrelia burgdorferi* and Cross Reactive Antigens:







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## IgG Antibodies to *Borrelia burgdorferi* and Cross Reactive Antigens:



PATIENT: KELLY, ROBERT  
DOB: 01/01/29 SEX: M

SAMPLE ID: 101685

DIETRICH KLINGHARDT, MD  
1200 112TH AV NE STE A100  
BELLVUE, WA  
98004

DRWN: 12/12/02  
RCVD: 12/16/02  
PRNT: 12/20/02

DIRECTOR: BOYD G. STEPHENS, M.

-----  
TEST NAME RESULT UNITS  
-----

LYME IgG WESTERN BLOT

-----  
The IgG WB is considered positive if two of the starred bands are present:  
23-25, 31, 34, 39, 41, 93 kDa.

The IgG WB is considered equivocal if one of these bands are present:  
23-25, 31, 34, 39, 93 kDa.

41 kDa, by itself, is negative.\*\*\*REVISED 9/16/99

ASTPHLD/CDC recommendation: An IgG WB is positive if five of these bands  
are present: 18, 23-25, 28, 30, 39, 41, 45, 58, 66, 93kDa. New York State  
Department of Health considers Western Blots positive that conform to the  
ASTPHLD/CDC criteria.

BAND INTENSITY: Low +, Medium ++, High +++, Equiv +/-  
-----

LYME IGG WESTERN BLOT	POSITIVE
18 kDa	-
22 kDa	-
**23-25 kDa	++
28 kDa	++
30 kDa	++
**31 kDa	++++
**34 kDa	++
37 kDa	-
**39 kDa	+/-
**41 kDa	+++
45 kDa	+
58 kDa	+/-
66 kDa	+/-
73 kDa	-
83 kDa	-
**93 kDa	-

PATIENT: KELLY, MARIA  
DOB: 04/20/42 SEX: F

SAMPLE ID: 103704

DIETRICH KLINGHARDT, MD  
1200 112TH AV NE STE A100  
BELLVUE, WA  
98004

DRWN: 00/00/00  
RCVD: 01/31/03  
PRNT: 02/18/03

DIRECTOR: BOYD G. STEPHENS, M.

TEST NAME	RESULT	UNITS
LYME IgM WESTERN BLOT	.....	
The IgM WB is considered positive for the presence of AB to B. burgdorferi if two of the starred bands are present: 23-25, 31, 34, 39, 41 kDa.		
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ASTPHLD/CDC Recommendations: An IgM WB is positive if two of these bands are present: 23-25, 39, 41 kDa. New York State Department of Health considers Western Blots positive that conform to the ASTPHLD/CDC criteria.		
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LYME IgM WESTERN BLOT	POSITIVE	
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30 kDa.	+/-	
**31 kDa.	+/-	
**34 kDa.	+/-	
37 kDa.	-	
**39 kDa.	+	
**41 kDa.	++	
45 kDa.	+	
58 kDa.	++	
66 kDa.	+	
73 kDa.	-	
83 kDa.	-	
93 kDa.	+	

*RWD ML 3/17/03*

Continued on next page

Dia: *Western - Blot*  
int

ratory tests alone. Results should be cal symptoms and patient history.



# The Diagnostic Paradoxes

- **First You Have to Treat,  
Then You Can Make the Diagnosis**

The cells of the immune system responsible for making antibodies are sick and cannot produce antibodies. The Western Blot becomes positive, as soon as an effective treatment has been given – not before.

# The Diagnostic Paradoxes

- Making the diagnosis dependent on the history of a tick bite represents poor logic: 22% of horse flies, deer flies and mosquitoes are infected with *Borrelia* and co-infections in endemic areas

The etiologic agent of Lyme disease in deer flies, horse flies and mosquitoes, *J Infect Dis* 154 (1986), 355-358, LA Magnarelli, JF Anderson, AG Barbour, *Klinik der Lyme-Borreliose*: Hans Huber Verlag, Bern, CH (2002). 39-40, Norbert Satz

- Spirochetes can assume a cystic form which can lay dormant in tissues and escape detection from any of the above diagnostic methods

*Lyme disease, potential plague of the 21st century: R Bradford and H Allen, Townsend Letter for Doctors and Patients, Jan 2005, 70-79*

# Helpful Tips From the Laboratory

- Abnormal lipid profile (moderate cholesterol elevation with significant LDL elevation), elevated triglycerides (=early response) or very low triglycerides (late response)
- Insulin resistance
- Borderline low wbc (3000- 5000), normal SED rate and CRP
- Low-normal thyroid hormone tests but positive Barnes test and excellent response to giving T3
- Adrenal failure or weakness (high cortisol in early stage, low cortisol, DHEA and testosterone in late stage Lyme)
- Low alkaline phosphatase (indicating low zinc levels, usually from lyme associated HPU)
- Decreased urine concentration (low specific gravity)



# HPU: HemoPyrrolLactamUria

found in 80% of Lyme patients

The co-founder (with Linus Pauling) of Orthomolecular Medicine, Abram Hoffer MD discovered this condition in 1958. In the urine of his schizophrenic patients he discovered a compound he named “Mauve factor”, later falsely identified as kryptopyrrol, and finally correctly identified as hydroxy-hemopyrrolin-2-one (HPL or HemoPyrrolLactam).

Other names used in the literature: Malvaria, Pyrroluria, KryptoPyrrolUria, Mauve, HemoKryptoLactamUria

To keep things in line with the literature, we refer to this condition as HPU

In every patient with a suspected diagnosis of Lyme-Borreliosis or co-infection, HPU should be ruled out and/or treated before proceeding with any anti-microbial strategy

# HPU is a frequent co-factor in patients with:

1. Lyme disease (microbes induce HPU enzymes to deplete white cells of zinc and weaken their fighting abilities)
2. heavy metal toxicity (detox pathways are overwhelmed and ineffective, lack of glutathione)
3. Many -if not most - neurological illnesses (common in MS, Parkinson, Depression, Autism)

When HPU is correctly diagnosed and the recommended substitution of supplements is included in the treatment of any chronic illness, outcome can be dramatically improved



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OF NUTRIENTS

VITAMIN

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Cliffwood Beach, NJ 07735  
Phone (732) 583-7773  
Fax (732) 583-7774

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Tel.:31-(0)30-2871492  
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Reportdate 16/01/2009 <sup>1</sup>

Name Dietrich Klinghardt Md  
DOB 03/10/1963 Sex Female 11656 98th Ave NE  
Patient no 79447 98034 KIRKLAND, WA  
Through : VITAMIN DIAGNOSTICS  
: VITAMIN DIAGNOSTICS

Applicant KLINGHAR  
Date received 31/12/2008  
Labno 312835  
Date received 31/12/2008  
1st printdate 16/01/09

	(1)	Ref. range	Units
<u>Hematologie</u>			
Your reference:	14240		
<u>Urine analysis</u>			
Kryptopyrrol	67.0*	<15	µg/dl

*Reid Klinghardt  
K. Klinghardt  
PC scheduled 1/21/09 SH*

\*outside ref.range ; Performed at ELN

At Vit. Diag. when (N) after testname Final Report Signat.



# HPU patients lose supra-physiological amounts of zinc, B6 and manganese in the urine

- HPU is caused by the defect of several of the 8 enzymes needed for the synthesis of heme
- **Heme is needed for liver detox reactions (cytochromes), Cystathionine synthase, Catalase, Heme-hemopexin for MT translation, Guanylate cyclase, Sulfite-reductase, NOS, Pyrrolase.**
- **HPU patients have low serum glutathion levels, high NO levels, low histamine**
- **HPU can be inherited or can be acquired (trauma, stress, toxins, infections)**
- Hoffer: 27/39 early schizophrenics positive  
10/14 criminal / patients with deviant behavior positive  
740 patients: all recovered schizophrenics negative, unrecovered 50% positive
- Down syndrome 70%, Schizophrenia 70%, Autism 76%, Rett 90%, ADHD 60%, Alcohol abuse and all other addictions: 80%, anorexia: 88%
- Lyme disease and co-infections: 80% positive (Klinghardt)
- Toxic Patients with mercury and lead retention: 75% (Klinghardt)
- **HPU treatment dramatically improves the outcome of bee venom therapy**

# Leukodynia

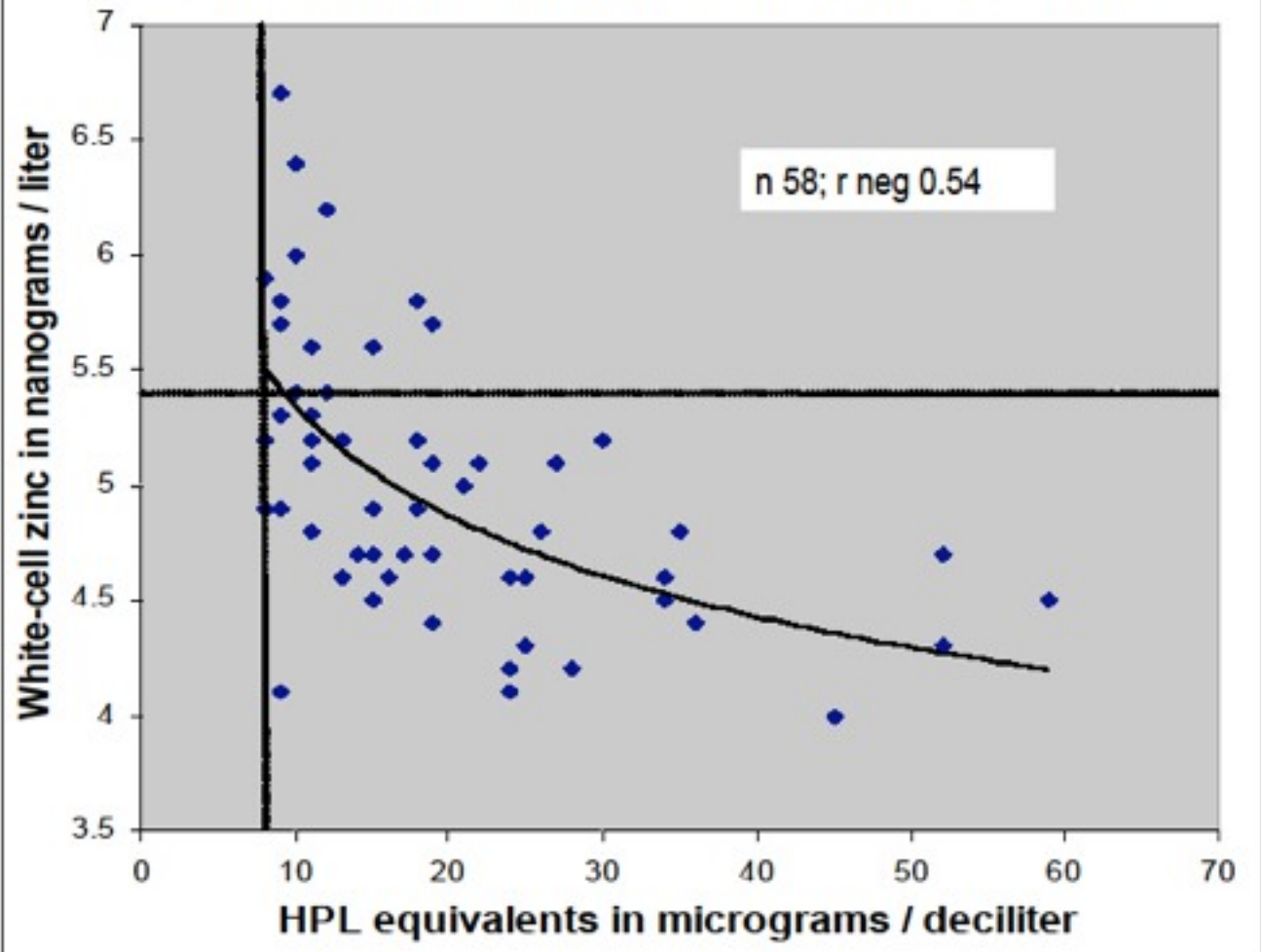


## Discerning the Mauve Factor, Part 1 and 2

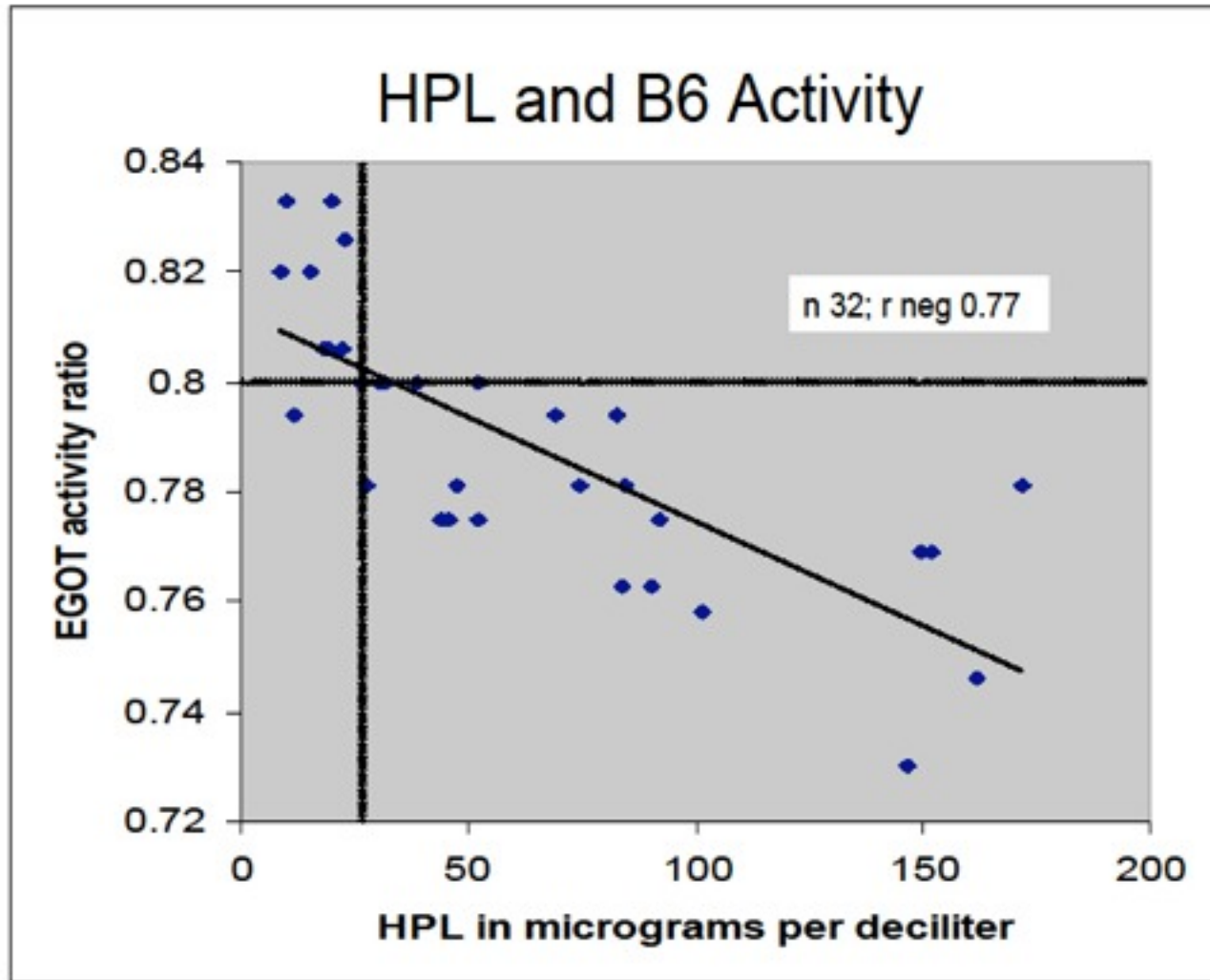
[Audhya, Tapan et al](#), 1: Altern Ther Health Med. 2008 Mar-Apr;14(2):40-50

- In cohorts with mixed diagnoses, 24-hour urinary HPL correlated negatively with vitamin **B6** activity and zinc concentration in red cells ( $P < .0001$ )
- Above-normal HPL excretion corresponded to subnormal vitamin **B6** activity and subnormal zinc with remarkable consistency
- HPL correlated inversely with plasma **glutathione** and red-cell catalase, and correlated directly with plasma nitric oxide ( $P < .0001$ )
- HPL is a valuable biomarker for oxidative stress
- HPL is known to cause heme depression, which lowers zinc, increases nitric oxide, and **increases oxidative stress**
- Administration of prednisone reportedly provoked HPL excretion in animals (model for **stress**)
- KPU causes **leaky gut** syndrome: urinary HPL examined in relationship to urinary indicans, presumptive marker for intestinal permeability. Urinary HPL associated with higher levels of indicans ( $P < .0001$ )

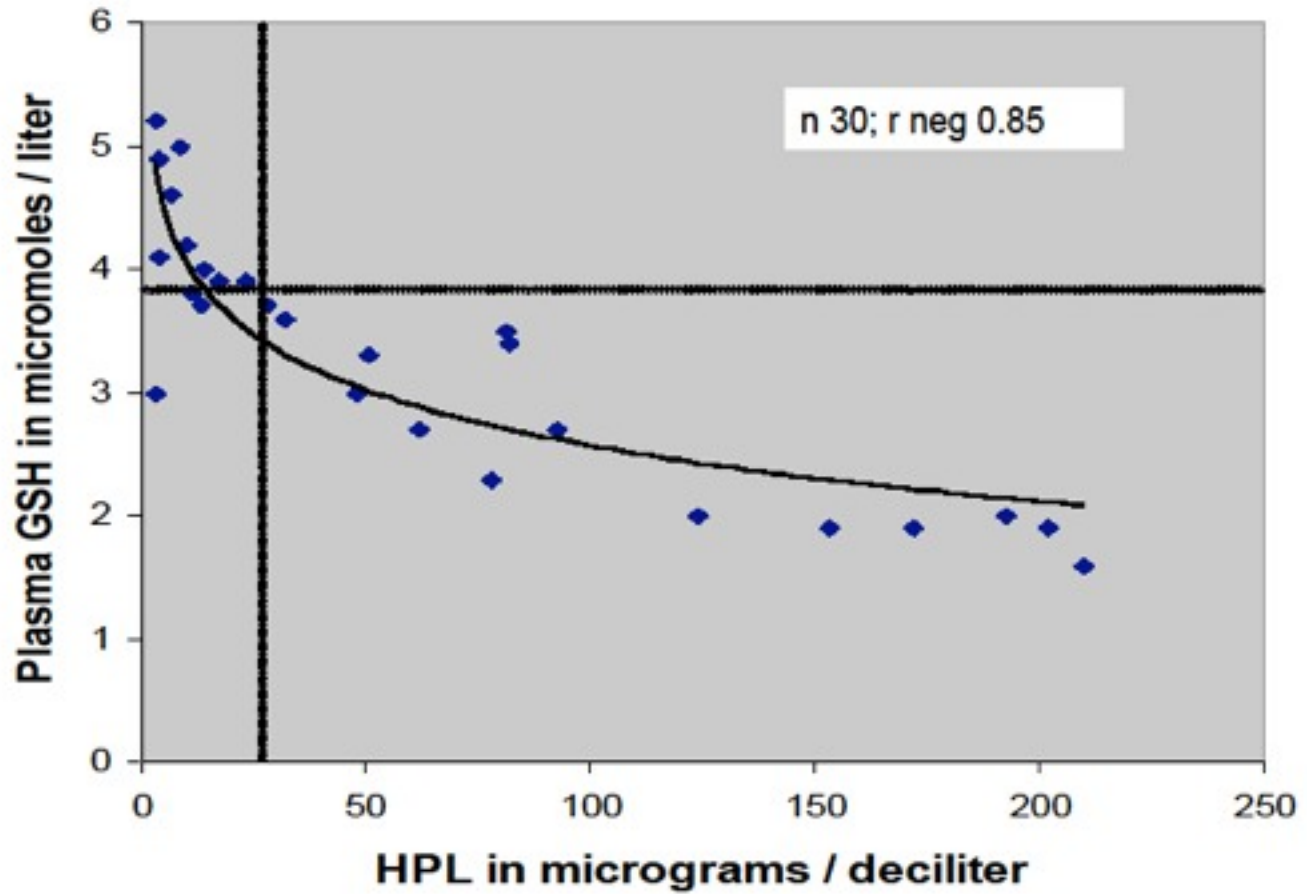
# Colorimetric Mauve and WBC Zinc







## HPL and Plasma Reduced Glutathione



# Diagnosis

- High level of suspicion
- Diagnosis of Lyme disease, CFIDS, FMS, heavy metal toxicity
- 24-hr urine test for HPU (US: Vitamin Diagnostics, UK: BioLab, Europe: [www.KEAC.NL](http://www.KEAC.NL)).
- US and UK: Use cleaned large orange or milk juice-carton for collection (then filling the transport tube). Add 500 mg of ascorbic acid per liter of urine to stabilize pyrrols. Wrap aluminum foil around collection-container and transport-tube to prevent light induced pyrrol breakdown. Keep in fridge at all times (half life of pyrrols is 8 hours). Freeze transport tube briefly to facilitate the breakdown of undetectable tera-pyrrols to detectable mono-pyrrols. Send without delay with fastest method possible, Monday - Wednesday only. Alert the lab for immediate processing upon arrival
- Preparation for the test:
  - Do not take vitamins (especially B's and minerals) 5 days prior to test
  - Exposure to normal daily stresses is needed (no stress-avoidance or rest)

# Treatment

## **Minerals:**

**zinc 25-50 mg elemental zinc (=6 times this amount as gluconate, piccolinate or citrate) ,  
manganese 10 -20 mg , molybdenum 500 mcg, magnesium glycinate: 600 mg**

## **Oils:**

**Arachidonic acid from Omega-6 oils: butter and cream, evening primrose, ghee, borage oil, black current oil, coconut oil**

## **Vitamins:**

**Pyridoxal-5-Phosphate: 50 mg, B 6 (Pyridoxine HCL): 25 mg**

**Biotin: 10 000 /day**

**Niacinamide 1000 mg tid**

**Aminoacids: Taurine 500 mg tid before meals (Bile activation for neurotoxin elimination, and brain metabolism)**

## **Other considerations:**

**Zinc depletes copper levels. Some patients are or become copper deficient.**

**There is much misinformation regarding copper in the current nutritional**

**teachings. Beware. Monitor with red cell mineral test and replace if indicated (3-6 mg/day)**

**Always have metal- detox agents on board (Chlorella, MicroSilica, Phospholipic Exchange)**

## **Combination products:**

**“Core” from BioPure (INK, Freiburg): initial phase: 6 cpas with main meal, later: 4 caps/day  
maintainance**



## **The treatment of Lyme disease requires 4 distinctive steps:**

- 1. Improving normal physiology**
  - a. diagnose and treat HPU**
  - b. eliminate allergenic foods (Coca pulse test or ART)**
  - c. No foods heated above 100 C ( no bread, cookies, fried food, baked food)**
  - d. Charles Mraz adrenal cocktail: Vit B6 (part of HPU already), Vit B5 500 mg twice daily and Vit C (in cocktail already)**
  - e. Increase androgens with gelee royale**
  
- 2. Decreasing toxic body burden/unloading the system**
  - a. Chlorella 15-20 tbl 3 times per day 20 min before meals**
  - b. MicroSilica 100 mcg 1-2 times per day in juice**
  - c. Bee pollen (in cocktail already – provides needed aminoacids)**
  
- 3. Decreasing microbial count**
  - a. Lyme/Babesia/Bartonella cocktail**
  - b. bee venom therapy (in conjunction with other apitherapy products)**
  
- 4. Immunomodulation**
  - a. Bee venom therapy**
  - b. propolis (already in cocktail)**
  - c. auto-urine therapy**

# The Klinghardt Lyme Cocktail

## Ingredients per dose:

- 1 glass ½ water, ½ organic grapefruit juice, 1 tablespoon Phospholipid Exchange (PLE - BioPure/INK), 200-400 mg Artemisinin (source: internet), 20 drops propolis tincture 20%, 500 mg B5 as powder (open a capsule), 1000 mg ascorbic acid (Vit C), 1 heaping tsp bee-pollen, 20 drops Rizol Gamma (source: BioPure/INK), 100 mcg MicroSilica (BioPure), Quintessence 5 dropperfull and Rizol Gamma 15 drops (BioPure), 1 tsp local honey, 1-2 tbsp Rechtsregulat (BioPure)
- Use regular blender at high speed. Start with a little water just covering the blade of the blender, add the whole amount of PLE and Artemisinin. This creates over 5 minutes or so a liposomal artemisinin, the worlds most powerful antimicrobial for Babesia, Bartonella and many aspects of Lyme. Wait till this mix turns from watery to gel-like. Only then add the other ingredients.
- The MicroSilica (MS) is a powerful toxin binding and removal agent that binds to sulfhydryl affinitive metals and microbial biotoxins. Do not give minerals at the same time, since they would be bound up by MS. The HPU minerals should be given with a meal, away from the cocktail.
- The cocktail is given twice daily, 5 days on, 2 days off for many months. It may decrease iron levels, which should be monitored.

## Apitherapy as potent adjuvant

- Propolis is neuroprotective and anti-viral , anti-microbial(1)
- Gelee Royale restores normal hormonal levels, especially Lyme depleted androgen levels
- Honey antidotes the collagen–destructive effect of the Lyme biotoxins (2) and its oxidative nerve- and joint damage (3)
- Bee venom therapy is ancient and safe
- Bee venom is effective in improving multiple aspects and symptoms of chronic Lyme disease (4)
- Bee venom therapy is easy to learn and master
- Bee venom therapy is natural and allows the patient autonomy
- Bee venom composition has been analyzed completely (4):
  - mellitin is an effective anti-microbial against the Lyme spirochete (5) (6)
  - Apamin and octopamin antidote the neurotransmitter blockages (L-DOPA depletion) induced by the Lyme neurotoxins
  - Hyaluronidase and phospholipase dissolve microbial biofilm

# (1) Propolis, neuroprotection and anti-microbial effects

## **Propolis Protects Against Nerve Cell Death**

Protective Effects of Chinese Propolis and Its Component, Chrysin, Against Neuronal Cell Death via Inhibition of Mitochondrial Apoptosis Pathway in SH-SY5Y Cells

J. Agric. Food Chem, September 12, 2008

<http://apitherapy.blogspot.com/2008/09/propolis-protects-against-nerve-cell.html>

Abstract: Endoplasmic reticulum (ER) stress has been implicated in the pathogenesis of neurodegenerative and ischemic disorders. The purpose of this study was to evaluate the effects of Chinese propolis and its constituents [chrysin, galangin, pinocembrin, caffeic acid, and caffeic acid phenethyl ester (CAPE)] against tunicamycin-induced neuronal cell death in SH-SY5Y cells...

## **Comparative analysis of the protective effects of melatonin and caffeic acid phenethyl ester (CAPE) on mobile phone-induced renal impairment in rat**

Mol Cell Biochem. 2005 Aug;276(1-2):31-7. [Ozguner F](#), [Oktem F](#), [Armagan A](#), [Yilmaz R](#), [Koyu A](#), [Demirel R](#), [Vural H](#), [Uz E](#).

## **Antibacterial activity of propolis against MRSA and synergism with topical mupirocin.**

J Altern Complement Med. 2007 Sep;13(7):713-8.

Onlen Y, Duran N, Atik E, Savas L, Altug E, Yakan S, Aslantas O.

Department of Infectious Diseases and Clinical Microbiology, Mustafa Kemal University Faculty

## **Inhibition of Helicobacter pylori growth in vitro by Bulgarian Propolis**

J Med Microbiol. 2003 May;52(Pt 5):417-9

Boyanova L, Derejian S, Koumanova R, Katsarov N, Gergova G, Mitov I, Nikolov R, Krastev Z.

Department of Microbiology, Medical University of Sofia, Sofia, Bulgaria



# Apitherapy and Anti-Aging/collagen restoration

(2)Honey Helps Slow Aging Process

**“Products of Apiculture and Preventive Maintenance of Aging”**

Adv Gerontol, 2008; 21(2):252-7

[http://apitherapy.blogspot.com/2008/10/study-honey-helps-slow-aging-process\\_26.html](http://apitherapy.blogspot.com/2008/10/study-honey-helps-slow-aging-process_26.html)

Examination of 193 beekeepers daily using honey in quantity of 57.2 +/- 8.6 gram with definition of their biological age was carried out...The biological age of beekeepers appeared not only less, than of the persons who are not using products of beekeeping, but it also is less than biological age of the population as a whole.

(3)Honey has antioxidant effects

**“Significant Correlations' Between Honey Antioxidant Activity and Phenolic Content”**

Evaluation of Antioxidant Activity, Phenolic, Mineral Contents and Some Physicochemical Properties of Several Pine Honeys Collected from Western Anatolia

Int J Food Sci Nutr, 2008 Oct 23:1-13

<http://apitherapy.blogspot.com/2008/10/significant-correlations-between-honey.html>

**(4) “Bee Venom Therapy for Chronic Pain”**, Dietrich K. Klinghardt, MD, PhD, FAANaOS-C, FABPMS-C, Board Certified Diplomate Pain Management Specialties, Neurological and Orthopaedic Medicine  
 The Journal of Neurological & Orthopaedic Medicine & Surgery, ISSN 0890-6599/90-1103, Volume 11, Issue 3, **October 1990**, Editorial

Offices 2320 Rancho Drive, Suite 108, Las Vegas, Nevada 89102-4592, pages 195-197.

<b>Bee Venom Therapy: Biochemical Analysis</b>		
<b>Fraction:</b>	<b>Action:</b>	<b>Effect on Pain/Painful Joint:</b>
Hyaluronidase & Isoenzymes	Depolymerizes hyaluronic acid (the “glue” of the body)	Allows other components of Bee Venom to penetrate deep into tissues, inside cells, inside joint
Compound X (W. Shipman)	Lowers surface tension of all fluids (Surfactant)	“Wets” cell walls with Bee Venom, allows better penetration
Phospholipase A	Converts lecithin (cell wall) into lyso-lecithin. Lyso-lecithin acts as emulsifier, causes hemolysis in high doses. Most toxic component of Bee Venom	Emulsifies debris within joint and other tissues, increases local pain (for 10-15 minutes): counter-irritant
Melittin	Stimulates ACTH-secretion in the pituitary (Cortisol). Protects lysosomal membranes. Powerful antibacterial agent. Causes lysis of mast cells. Strongly kationic.	Strong anti-inflammatory effect (long acting). Short-acting histamine effects: increased capillary permeability, edema, temperature elevation, itching pain, increased vitality and sense of well-being; forces Bee Venom to attach to negatively charged cell wall.
Apamin	Stimulates central secretion of serotonin and dopamine. Blocks neurosynaptic processes in periphery	Increases central and peripheral pain threshold; decreased pain, increased sense of well-being
Mast cell degenerating protein (Haberman)	Strong anti-inflammatory action (approximately 100 times more than hydrocortisone)	Reduces inflammation and pain through local action on tissues inflammation
Other components: Acid phosphatase, alpha-glucosidase, phospholipase B, several peptides	Inhibition of: complement, kinines proteases, substance “P”, and other effects	Anti-inflammatory, pain reducing

## BEE VENOM THERAPY RESULTS

Diagnosis	# of Patients	Worse	Unchanged	Mildly Better	Good Results	Excellent Results
Gout	5					5*
Rheumatoid Arthritis (seropositive)	10	1	1		6	2
Rheumatoid Arthritis (seronegative)	5				4	1
Fibromyalgia (with elevated ESR)	7		1		2	4
Sprain/Strain Cerv. Spine	21			1*	4*	16*
Sprain/Strain Lumbar Spine	22		4*	2*	5*	11*
Disc Injury, Neck	8			1*	4*	16*
Disc Injury, Lumbar	13		2*	3*	4*	4*
Post-Laminectomy Pain	6		1	1	3	1
Arthritis Small Joints Hand	9		1	2	2	4
Painful Bunion	6			1		5
Post-Herpetic Neuralgia	4				1	3
Fracture Nonunion Navicular	1					1
Intractable Pain from Large Burn Wound (after skin grafting)	1					1
Osteoarthritis Knee	2				2	
Ankylosing Spondylitis	2				2	
Vertigo	5				3*	2*
Multiple Sclerosis	1				1	

Footnote: Asterisk (\*) indicates that those patients had other significant treatment modalities.

## (4) BEE VENOM COMPOSITION (Chris Kim MD)

### PEPTIDES

- melittin (family)
- melittin F
- apamin
- mast-cell degranulating peptide 401 (MCD)
- secarpin
- tertiapin
- adolapin
- protease inhibitor
- procamine A, B
- minimine
- cardiopep
- histamine (0.9%)

### ENZYMES

- phospholipase A2
- hyaluronidase
- acid phosphomonoesterase
- glucosidase
- lysophospholipase
- lecithinase

### ACTIVE AMINES

- histamine
- dopamine
- octopamine
- norepinephrine
- leukotriens

### NON-PEPTIDE COMPONENTS

- carbohydrates like:
  - Glucose
  - Fructose

### LIPIDS

- 6 phospholipids

### AMINO-ACIDS

- r-aminobutyric acid
- B-aminoisobutyric acid
- Cysteine
- Methionine

### Acids

- formic
- hydrochloric
- orthophosphoric



# B.V. SUBSTANCES AND THEIR EFFECTS

## **Phospholipase A (enzyme)**

- radioprotective activity
- mastocytolytic
- histamine release
- blood pressure depressants
- antigenic properties  
it is the major BV allergen
- antagonistic effect on staphylococcal alpha-toxin and tetanus toxin
- antitumoural effect
- acts on biological membranes

## **Hyaluronidase**

- selectively attacks tissue hyaluronic acid polymers
- increase the capillary permeability (Neumann and Habermann)
- immune response and tissue-spread properties
- antigenic
- anaphylactogene

## **Apamin (a polypeptide with 18 amino acids)**

- antigenic and
- anti-inflammatory properties
- antibacterial
- antifungal
- anti-lyme disease (in vitro experiment)
- antitumoural
- central nervous system inhibitory
- block nerve muscle and ganglial synapses
- contraction of the striated and smooth muscles
- histamine releasing
- mastocytololysic
- radio protecting (against X-irradiation; study on mice, Shipman and Cole, 1967)

## **Octopamin**

- Dompamin analogue
- Noradrenergic effects
- Language development
- Sleep inducing
- Motor control
- Use in Autism and M.Prakinson

**Mellitin (a polypeptide also consisting of 26 amino acids which represents 40-60% of the bee venom)**

- antibacterial
- antifungal
- anti-lyme disease (in vitro experiment)
- antitumoural
- central nervous system inhibitory;
- block nerve muscle and ganglial synapses
- contraction of the striated and smooth muscles
- histamine releasing
- mastocytololysic
- radio protecting (against X-irradiation; study on mice, Shipman and Cole, 1967)
- vascular permeability increasing
- haemolysis
- lowers blood pressure
- anti-inflammatory
- mellitin (which represents 40-60 % from the B.V. substances) has no antigenic properties (Orlov); otherwise, according to Artemov, the bee enemies would have gotten a specific immunity
- stimulate the pituitary - adrenal axis to release both cathecolamines and cortisol (Brooks *et al.*)
- increase plasma cortisol levels
- acts on biological membranes
- Presently, it is one of the most potent anti-inflammatory agents known, and it can be useful in treating arthritis and rheumatism

# Melittin

"Antiarthritic Effect of Bee Venom: Inhibition of Inflammation Mediator Generation by Suppression of NF- $\kappa$ B Through Interaction With the p50 Subunit," Hye Ji Park, Seong Ho Lee, Dong Ju Son, Ki Wan Oh, Ki Hyun Kim, Ho Seub Song, Goon Joung Kim, Goo Taeg Oh, Do Young Yoon, and Jin Tae Hong, *Arthritis & Rheumatism*, November 2004; 50:11; pp. 3504-3515 (DOI: 10.1002/art.20626).

- Their experiments focused on melittin, bee venom's principal peptide. They observed melittin's power to block the expression of inflammatory genes, much like COX-2 inhibitor drugs used to treat RA. Melittin effectively reduces inflammation by inhibiting the critical DNA binding activity of NF- $\kappa$ B (Nuclear Factor kappa B), which directly controls a number of genes involved in immune reactions. Thus, Melittin's targeted inactivation of inflammation may hold the key to the anti-arthritic effects of bee venom.

"The potency of melittin in the inhibition of the inflammatory response may be of great benefit in degenerative and inflammatory diseases such as RA," concludes Dr. Hong. "The extent of inhibitory effects of melittin in most parameters determined in the present study is similar to or greater than bee venom itself, suggesting that melittin may be a major causative component in the pharmacologic effects of bee venom."

# Mellitin and Lyme

- (5) Lubke, L.L., and Garon, C.F.: The Antimicrobial Agent Melittin Exhibits Powerful In Vitro Inhibitory Effects on the Lyme Disease Spirochete. *Clinical Infectious Diseases*, 1997;25(Suppl 1):S48-51

From the Bacterial Pathogenesis Section, Rocky Mountain Laboratories Microscopy Branch, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Hamilton, Montana, USA

## Abstract

*Borrelia burgdorferi* has demonstrated a capacity to resist the in vitro effects of powerful eukaryotic and prokaryotic metabolic inhibitors. However, treatment of laboratory cultures on Barbour-Stoenner-Kelly medium with melittin, a 26-amino acid peptide contained in honeybee venom, showed **immediate and profound inhibitory effects** when they were monitored by dark-field microscopy, field emission scanning electron microscopy, and optical density measurements. Furthermore, at melittin concentrations as low as 100 microg/mL, virtually all spirochete motility ceased within seconds of inhibitor addition. Ultrastructural examination of these spirochetes by scanning electron microscopy revealed obvious alterations in the surface envelope of the spirochetes.



# Melittin and Lyme

- (6 a) Vazquez, Joseph W. and Brooks, Chad S.: Evaluation of Melittin as a Novel Drug Therapy for Lyme Disease. Abstracts of papers presented at the 2007 meeting of the Tennessee Academy Of Science. Journal of the Tennessee Academy of Science, Jan-April, 2008 (Ed. Rex Barber), Austin Peay State University, Clarksville, Tennessee, USA.

## Abstract

*Borrelia burgdorferi* is the bacterium responsible for Lyme disease. In the absence of a vaccine, infected people must rely on antibiotics to cure them from *B. burgdorferi* infection. However, antibiotic therapy is not always efficacious, which warrants exploration of novel therapeutics. A prior study revealed that *B. burgdorferi* was susceptible to melittin, a metabolic inhibitor. Melittin is a 26 amino acid peptide and the primary component of honeybee venom.

This study explores melittin as a potential therapy for infected Lyme disease patients. In vitro analysis was performed to determine the bactericidal effects of melittin on *B. burgdorferi* in preparation for in vivo work.

In vitro, a minimum of 100 ng/mL of melittin was necessary to kill  $1 \times 10^6$  *B. burgdorferi* organisms in 15 min. *B. burgdorferi* infected mice were subsequently administered 500 ng of melittin to determine the therapeutics of melittin. In vitro and in vivo data will be discussed.

## RVT and Lyme

- (6 b) Joseph Vazquez, Jon McMahan, DeLacy LeBlanc and Chad Brooks: Evaluating the Bactericidal Effects of Melittin on *Borrelia Burgdorferi*. Austin Peay State University, College of Science and Mathematics, The second COSM Research Forum, Department of Biology, February 16, 2007. Austin Peay State University, Clarksville, Tennessee, USA.

### Abstract

*Borrelia Burgdorferi* is the pathogenic spirochete responsible for the transmission of Lyme disease, the most common reported tick-borne disease in the world. In the absence of a vaccine, infected people must rely on antibiotics to cure them from infection with *B. burgdorferi*. However, antibiotic therapy is not always sufficient to clear *B. burgdorferi* infection in all patients which warrants exploration of alternatives and novel therapeutics.

Previous studies have indicated that *B. Burgdorferi* demonstrates a strong resistance against metabolic inhibitors such as melittin, a 26 amino acid peptide and the primary component of honeybee venom. Only one study exists examining the effects of melittin on *B. burgdorferi* survival and revealed that melittin had significant bactericidal effects on *B. burgdorferi*. However, their technique was not quantitative and therefore lacked empirical usefulness for further evaluation. This study explores melittin as a potential therapy for infected Lyme disease patients. In vitro analysis was performed on bactericidal effects of melittin on *B. burgdorferi* in preparation for in vivo work.

At the least, 10 mg/ml was necessary to kill  $2.0 \times 10^6$  *B. burgdorferi* organisms in approximately 15 minutes. These findings have significant medical importance if they can be replicated in mammalian systems.

## **Mast Cell Degranulating peptide (Petide 401)**

- In many animal studies, in comparison studies with hydrocortisone, this peptide was 100 times more potent as an anti-inflammatory agent in suppressing the development of adjuvant-induced arthritis. (M.Simics)
- increase both the force of contraction (beta-adrenergic) and the heart rate with little or no effect on coronary circulation (Brooks *et al.*);
- anti-arrhythmic properties (Brooks *et al.*);
- stimulate the pituitary - adrenal axis to release both catecholamines and cortisol (Brooks *et al.*)

## **Cardiopep**

- increase both the force of contraction (beta-adrenergic) and the heart rate with little or no effect on coronary circulation (Brooks *et al.*)
- anti-arrhythmic properties (Brooks *et al.*);
- stimulate the pituitary - adrenal axis to release both catecholamines and cortisol (Brooks *et al.*)

## **Adolapin**

- analgesic (Shkenderov, 1982);
- anti-inflammatory (Shkenderov, 1982)

<b>COMPONENT</b>	<b>MOL. Wt.</b>	<b>% (Dry Venom)</b>	<b>Reference</b>
<b>PEPTIDES</b>			
<b>Melittin</b>	<b>2,840</b>	<b>40-50</b>	<b>Neumann <i>et al.</i>, 1952</b>
<b>Apamin</b>	<b>2,036</b>	<b>2-3</b>	<b>Habermann <i>et al.</i>, 1965</b>
<b>MCD-Peptide 401</b>	<b>2,588</b>	<b>2-3</b>	<b>Fredholm, 1966</b>
<b>Adolapin</b>	<b>11,500</b>	<b>1.0</b>	<b>Shkenderov, 1982</b>
<b>Protease inhibitor</b>	<b>9,000</b>	<b>&lt; 0.8</b>	<b>Shkenderov, 1973</b>
<b>Secarpin</b>		<b>0.5</b>	<b>Gauldie <i>et al.</i>, 1976</b>
<b>Tertiapin</b>		<b>0.1</b>	<b>Gauldie <i>et al.</i>, 1976</b>
<b>Melittin F</b>		<b>0.01</b>	<b>Gauldie <i>et al.</i>, 1976</b>
<b>Procamine A, B</b>		<b>1.4</b>	<b>Nelson and O'Connor, 1968</b>
<b>Minimine</b>	<b>6,000</b>	<b>2-3</b>	<b>Lowy <i>et al.</i>, 1971</b>
<b>Cardiopep</b>		<b>&lt; 0.7</b>	<b>Vick <i>et al.</i>, 1974</b>



<b>ENZYMES</b>			
<b>Hyaluronidase</b>	<b>38,000</b>	<b>1.5-2.0</b>	<b>Neumann &amp; Habermann</b>
<b>Phospholipase A2</b>	<b>19,000</b>	<b>10-12</b>	<b>Habermann &amp; Neumann, 1957</b>
<b>Glucosidase</b>	<b>170,000</b>	<b>0.6</b>	<b>Shkenderov <i>et al</i>, 1979</b>
<b>Acid Phosphomono-esterase</b>	<b>55,000</b>	<b>1.0</b>	<b>Shkenderov <i>et al</i>, 1979</b>
<b>Lysophospholipase</b>	<b>22,000</b>	<b>1.0</b>	<b>Ivanova <i>et al</i>, 1982</b>
<b>ACTIVE AMINES</b>			
<b>Histamine</b>			
<b>Dopamine</b>		<b>0.13-1.0</b>	<b>Owen, 171</b>
<b>Norepinephrine</b>		<b>0.1-0.7</b>	<b>Owen, 1982</b>

<b>NON-PEPTIDE COMPONENTS</b>			
<b>Carbohydrates: Glucose &amp; Fructose</b>		< 2.0	O♦Connor <i>et al</i> , 1967
<b>LIPIDS</b>			
<b>6 Phospholipids</b>		4.5	O♦Connor <i>et al</i> , 1967
<b>AMINO-ACIDS</b>			
<b>r-Aminobutyric acid</b>		< 0.5	Nelson & O♦Connor, 1968
<b>B-Aminoisobutyric acid</b>		< 0.01	Nelson & O♦Connor, 1968

# Technique

*Bee venom therapy is safe, effective and often necessary in the treatment of late stage Lyme disease*

Supplies:

- Venex-Forte (source: M. Simics): 1 ml contains the equivalent of 20 bee stings - plus homeopathic dilutions of bee venom ( helps to metabolize the venom in optimal ways, prevents allergic reactions, minimizes side effects and increases healing response). This is the only venom that we use because of its superiority . **VeneX Forte** contains these homeopathic bee venom potencies/dilutions of 6X, 12X and 24X (D6, D12 and D24)
- 3 ml syringes,
- 1"25 g draw up needles, ½"30g injection needles
- 1% Procaine
- Bee sting kit (injectible epinephrine/EpiPen) and oral Benadryl (Diphenhydramine, 50 mg tbl)

Epinephrine Brands in North America/ Synonyms: Ana-Guard Epinephrine, Adnephrine, Adrenal, Adrenalin, Adrenalin Chloride, Epicure, Epinephrine Bitartrate, Epinephrine Hydrochloride, EpiPen.

- Do not attempt to use bee venom for chronic Lyme without following the whole protocol
- If the patient has recovered, bee venom can be used alone or in conjunction with most other Lyme treatments, especially if biological agents and methods are used

**Target minimum doses** (given 3 times per week until patient clearly improved):

- Up to 60 kg (132lbs) 0.5-0.6 ml (equivalent of 10-12 bee stings)
- Between 60-80 kg (132-176lbs) 0.6-0.7 ml (equivalent of 12-14 bee stings)
- Between 80-100 kg (176-220lbs) 0.7-0.8 ml (equivalent of 14-16 bee stings)

**Procedure:**

- Draw up 2 ml of 1% preservative free procaine (Procain Steigerwald in German speaking countries, from compounding pharmacies in the US) plus chosen amount of BV. Start on first visit with 1/20<sup>th</sup> of an ml (0.05ml) (=equivalent to 1 bee sting), use about 0.2 ml per injection site(= about 10 “stings” total). Wait for 20 minutes after the first injection to rule out an adverse reaction. Then proceed with the rest of the 2.05 ml during this visit. 2-3 days later have the next session. Depending on after-effects slowly work up to the target dose over several weeks. Use always 2 ml procaine even with higher doses of BV, as the injection pain and post injection problems lessen with ongoing treatment
- Attach a 30 g 1/2 “ needle (dental needle) to the syringe
- The needle is inserted almost horizontally into the skin, so that the needle tip is less than a mm deep under the surface, but inserted about 3-4 mm sideways from the insertion point, so that the venom does not flow backwards out of the skin on the side of the needle



**Location:** always start over the kidney/adrenal area with 5-6 small blebs (wheels) on each side. Each wheel should be about 4-5 mm in size. This greatly prevents untoward effects during the warm-up phase. The next area to be treated is determined based on symptoms, acupuncture knowledge and local tenderness to pressure. The approximate number of wheels is the same number as the number of stings-equivalent in the syringe. If neither symptoms nor knowledge are suggestive of a particular area, wheels should be placed 4 cm from midline along the thoracic spine (this is close to the sympathetic chain of the autonomic nervous system and often assures the greatest results).

### **Maintenance Dose**

Once the patient is symptom free or it is assumed that there will be no further benefit, reduce the dose to the minimum number of injections recommended within a specific weight group and administer in twice a week.

### **Note**

The treatment of Lyme disease is non seasonal, consequently venom from live bees cannot be used year around. Melittin is the highest end of June to end of August in bee venom. The rest of time it is only 1/4 to 1/3 of the quantity and quality compare to venom from Summer bees.

In the treatment of Lyme disease, live bee sting therapy is not the best treatment option. Injectable venom with known amount of Melittin will provide a much better treatment outcome.

## Common side effects

- Local swelling and pain is expected. Initially the size of the reactive area (red, swollen, painful) may increase over 3-6 treatments, then usually gets smaller with less intensity. After full habituation to the venom there is a maybe 6-10 mm size redness which disappears within an hour. Dependent on the reaction, the dose for the next treatment gets modified (more, less, smaller amounts distributed over larger area, wait more then 2 days for next treatment, but not more then 5). When there is large area of redness and swelling, lasting for a long time, initially only those body parts should be injected that are covered with clothes (legs, back)
- When there is no reaction, there is anergy – this means a non-reactive state of the immune system which is typical in Lyme and worrbersome. The immunesystem stopped fighting invaders. When the redness is excessive more then 2.5cm there is hyper-immunity, often combined with auto-immunity, which is also worrbersome. After habituation to the venom most parameters of immunity normalize. This may take weeks or months.
- Sometimes patients get redness in the injected area weeks or months after the actual treatment. Sometimes the redness appears days afterwards in different body parts, usually related and explained in acupuncture meridian distribution
- The literature reports a few cases of bee keepers who developed a reversible nephrotic syndrome (protein loss of kidneys) from regular live bee stings. We have not observed this problem in our patient population with the use of Venex Forte.

**Profound post-injection fatigue:**

Indicator that the adrenal glands cannot respond to the challenge. Uncommon, when our protocol is used. Go back to only use the preparation phase supplements, wait 6-12 weeks and start again on BVT

**Anaphylactic reaction:**

Rare. May start with deep itch in hands and soles of feet. Then may progress to stridor (difficulty breathing). Start worrying when the redness from the injection (and the associated itch) spreads far beyond the injected area. Respond by using the same injection needle you just used as acupuncture needle: stick the needle halfway between nose and upper lip deep into the skin. If that does not work, take 50-75 mg diphenhydramine (Benadryl) which takes 20 minutes to work. Familiarize yourself with the Epi-pen or injectable epinephrine. Better to open a vial epinephrine 1:1000. use only 1/3<sup>rd</sup> of content and inject anywhere just under the skin and massage the area for faster uptake. Effect feels like a super dose of coffee. Anti-anaphylactic effect may last only for 5-6 minutes and shot may have to be repeated once or twice

**No significant improvement:**

It may take up to 6 months before the first clear signs of improvement are appreciated

Frank S., 46 year old male. Since 8 years sever fatigue and body aches, brain fog, tremors, unable to work

Dx: late stage Lyme disease

lab: pos. Western Blot IgM, high viral titers (HHV6, EBV), low alk.phos, high LDL, low wbc

Treatment: Was treated by Lyme-literate physicians with ongoing antibiotic therapy for 3 years. Also was seen by nutritionist (metabolic typing) and was on multiple nutritional supplements, hormone replacement therapy (testosterone, hGH) and various homeopathics. Used a Rife machine daily

Result: only marginal improvement.

1<sup>st</sup> visit with Dr.K: did HPU test: highly positive. Started on "Core" 6 tablets with lunch – soon after goes into detox crisis ("everything is worse"). Added colon hydrotherapy, mild exercise, MicroSilica and OSR - with rapid lessening of crisis.

2<sup>nd</sup> visit (after 4 months on HPU treatment): Started full "Lyme cocktail": patient developed fevers, night sweats, anger outbursts for 6 weeks, then started feeling significantly better. Still had severe fatigue, moderate joint pains and brain fog.

3<sup>rd</sup> visit 7 weeks later: both hip joints were injected with 10 ml ozone (32 Gamma) - with solid improvement of hip pain by the next day. On the same visit we started BVT with 0.05 ml plus 2 ml 1%procaine. Patient gets instructions for self-administration and is in phone contact with assistant. After the 4<sup>th</sup> injection (still only 0.05ml) severe anxiety attack, large area of swelling around the sites (kidney area), increased fatigue and increased joint pain. Continued with 0.05 ml BV . After the 7<sup>th</sup> injection only minimal swelling, no systemic symptoms. Started dosage increase. After 6 weeks first improvement in fatigue and joint pains. Therapy continues 3 times per week (he treats himself at home without supervision). After 5 months 80% improvement on all aspects. After 9 months asymptomatic. He stops the therapy (against our advice). Slow decline of health over 2 months. He restarts therapy with full dose he had reached before (0.8 ml) – against our advice - and has severe reaction (anxiety, shortness of breath, severe injection site pain ) but he gets through without using his EpiPen. He waits for a few days, then restarts the therapy lege artis with 0.05 ml plus procaine and slowly inches up again to the full dose. He is again asymptomatic in 3 weeks , now injects himself twice weekly.

At the time of this writing Frank is asymptomatic since over 2 years.



# Summary

- Preparation phase:

Rule out HPU and treat if positive. Only then start treatment with the Lyme cocktail

- Initial phase:

After the Lyme cocktail is established and tolerated, start bee venom injections with lowest dose, slowly increasing to target dose or higher (the dose where symptoms start to retreat). Aim at 3 treatments per week. No pauses, which may allow the body to develop allergic reactions

- Treatment phase:

after reaching the effective target dose, stay with it. Estimate 2 months treatment per each year of illness. 3 times per week till stable, then twice weekly

- Maintenance phase:

find the lowest dose that maintains optimal health, injections twice weekly

- Length of treatment:

at least 18 months, but consider treating for life - or as long as you want to feel well

## Other valuable apitherapy items in the treatment of Lyme Borreliosis and co-infections (M.Simics)

**Injectable Venom Solutions** - Venom solutions prepared from Grade I. honeybee venom: VeneX-10, VeneX-20 or VeneX Forte mixed 1:1 to 1:4 with 1% Procaine.

**VeneX Ointment** (with bee venom) - Preferred indications are chronic neuritis, degenerative arthropathy, functional disturbances of muscles, ligaments and tendinous insertions, lumbago, muscle warming prior to and during sport activities, myalgia, neuralgia, peripheral circulatory disturbances, sciatica, subchronic and chronic polyarthritis, shingles and sports injuries.

Lyme symptoms: Apply ointment to the painful areas (Table 1.), joints (intermittent or chronic pain, swelling) and for muscle pain, muscle cramps/aches, inflammation, loss of muscle tone and reflexes.

**ApiMixx Caps.** - Capsules with the right ratio of bee pollen, propolis and royal jelly to support bee venom therapy. (2-4 caps/day)

**Anti-Itch Gel** - To lessen the itch from bee venom. This product is at least five times stronger compare to any other products on the market. It was formulated specifically for bee venom therapy to those who receive venom the equivalent of multiple "bee stings". It will not neutralize the effect of the venom. It has strong odor, -- but works within minutes!

**Apisil Ointment** - Multi-purpose ointment to speed up healing of skin from injections marks (order it only if you have sensitive skin).

**Propolis Tincture/Nano-Grade** - Propolis for Babesia microti, Mycoplasma pneumoniae, Bartonella henselae infections. For the detoxification of the body (neurotoxin elimination), it is a natural antibiotic, to kill molds (use propolis vaporizer inside the house), memory loss and for immune support.

**Royal Jelly-** One gram of liquid royal jelly equivalent to 250-300 mg freeze-dried royal jelly.

liquid:	1,000-2,000 mg daily, preventive dose	freeze-dried:	300-600 mg daily, preventive dose
	2,000-5,000 mg daily, therapeutic dose		600-1,500 mg daily, therapeutic dose

Beware of possible allergic reactions

### Warning

***Royal jelly may cause very serious allergic reactions. Asthma sufferers are most at risk.***

## How to Order Apitherapy Supplies:

If bee venom therapy is a treatment option, a prescription is needed for the venom solution. On the prescription show the name of the patient, diagnosis, his/her body weight and the product name: 1 x VeneX Forte, or 1 x VeneX-20, or 2 x VeneX-10. The Lyme protocol available with product order only as part of the supportive literature.

### Starter Package

1 x VeneX Forte, or 1 x VeneX-20, or 2 x VeneX-10 (260 injections)  
1 x Lyme Protocol Package  
1 x ApiMixx Capsules to support bee venom therapy (recommended)  
2 x Anti-Itch Gel to reduce itch (recommended)  
1 x VeneX Ointment (optional)  
Shipping (two parcels)

### Brochure: Bee Venom Treatment Protocol

Klinghardt, Dietrich MD: The Treatment of Lyme Disease with Bee Venom - detailed treatment procedure and summary of feedback from over 500 Lyme disease patients.

### First Order

- 1., Fax prescription to 1-604-271-9414.
- 2., Provide detailed shipping address, phone/fax number, etc. Make sure that the address is correct.
- 3., Orders shipped pre-paid.

- Source of apitherapy supplies

Michael Simics: ***msimics@direct.ca***

Apitronic Services    Tel./Fax: (604) 271-9414  
9611 No. 4 Road      Email: msimics@direct.ca  
Richmond, BC        Skype: m\_simics  
V7A 2Z1, Canada     Web: [www.beevenom.com](http://www.beevenom.com)

# Dietrich Klinghardt MD,PhD

## **USA:**

Teaching, web-based information, seminar schedule:

*Klinghardt Academy of Neurobiology*

[www.klinghardt.org](http://www.klinghardt.org)

Medical office (CMC - Comprehensive Medical Center, Kirkland, WA, USA): (001)- 425 823 8818

Supplements for detoxification and Lyme treatment:

BioPure US : 001- 425 462 8414      [BioPureUS.com](http://BioPureUS.com) and [BiopureEurope.com](http://BiopureEurope.com)

## **German speaking EU:**

Teaching in Europe: *INK* (Institut fuer Neurobiologie nach Dr.Klinghardt in Freiburg Waltershofen)

tel: 07665-93247-10    Fax: 07665-93247-20

[seminar@ink.de](mailto:seminar@ink.de)      [www.ink.ag](http://www.ink.ag)

Supplements for detoxification and Lyme treatment:

BioPure Europe      Tel: 07665-938610    Fax: 07665 9386920

[kontakt@bio-pure.de](mailto:kontakt@bio-pure.de)      [www.Bio-Pure.de](http://www.Bio-Pure.de)

## **France** and all other non-English, non-German speaking countries :

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