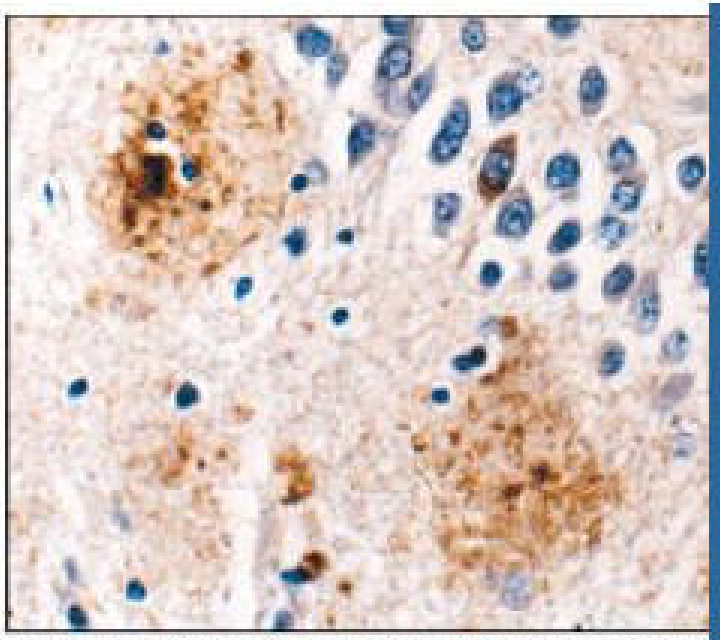
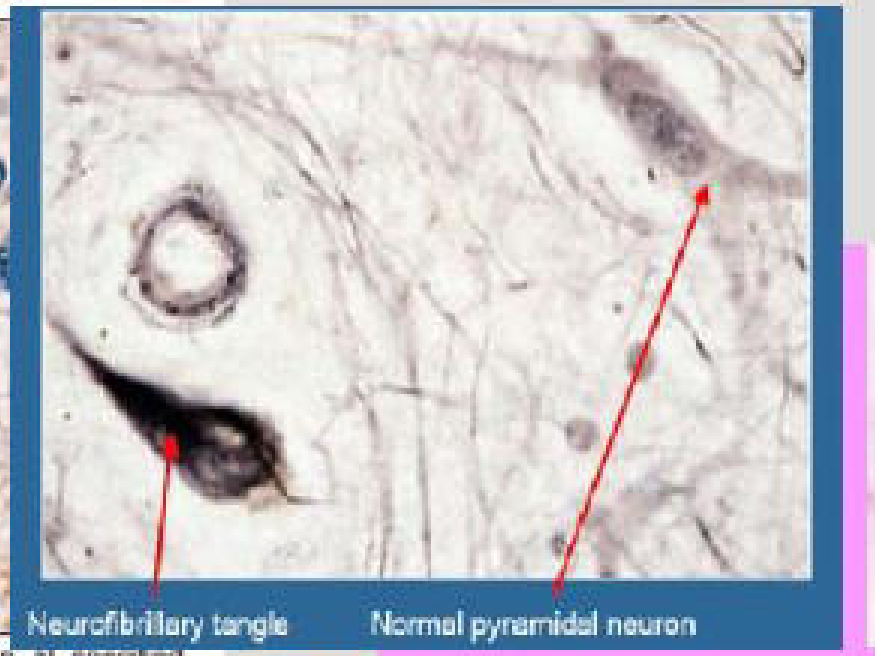


Figure 1. Amyloid plaques and neurofibrillary tangles at specified densities in sectioned brain tissue constitute the neuropathologic criteria confirming Alzheimer's disease. Here both plaques and tangles appear



Granules vary in size ---little to big

GVB Third Requirement for Alzheimer's

GVB are

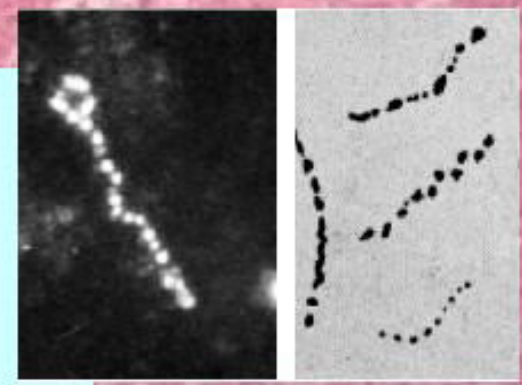
"Dots" inside of

"Bubbles"

Which are

Inside of

Diseased Nerve cells



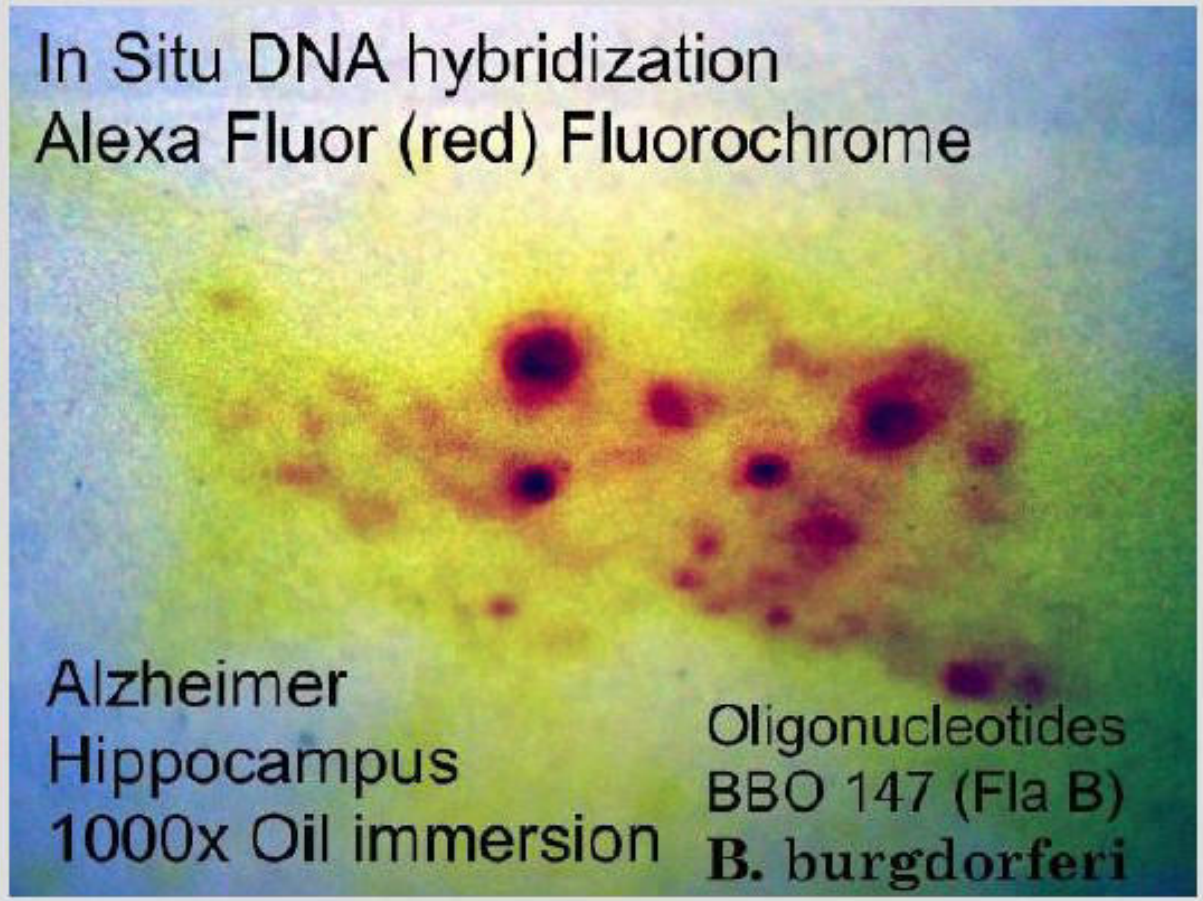
Hypothesis: GVB in Alzheimer's

Are the "signature" of

Granular Spirochetes inside

Nerve cells

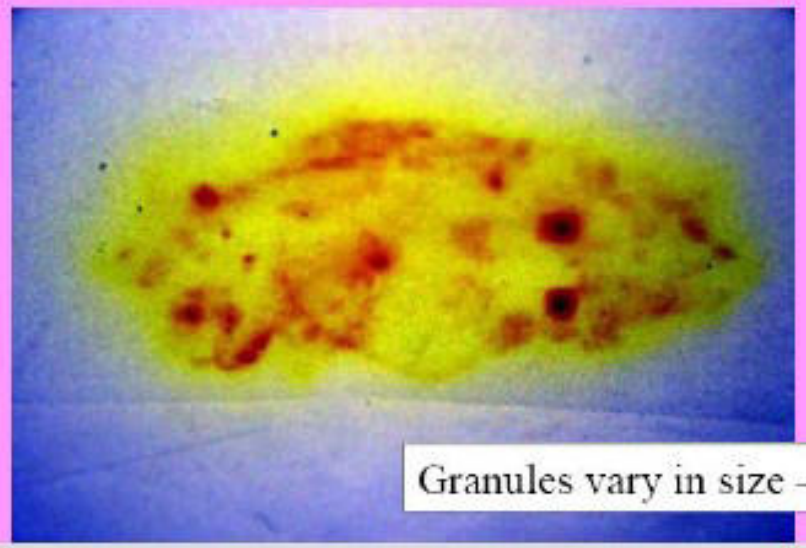
DNA in GVB


In Situ DNA hybridization
Alexa Fluor (red) Fluorochrome
Alzheimer
Hippocampus
1000x Oil immersion
Oligonucleotides
BBO 147 (Fla B)
B. burgdorferi

DNA

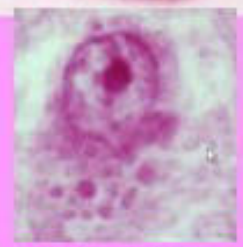
in GVB

Human Alzheimer
In situ DNA hybridization for
Borrelia burgdorferi DNA

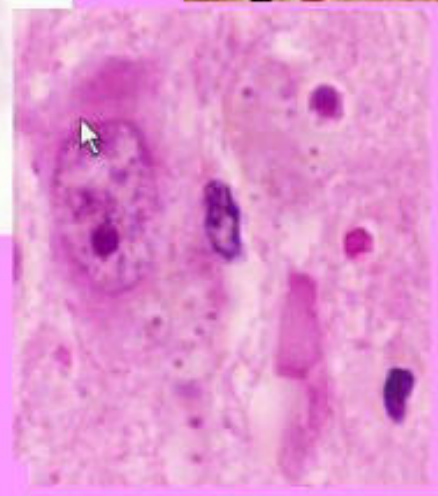


Granules vary in size – from little to big

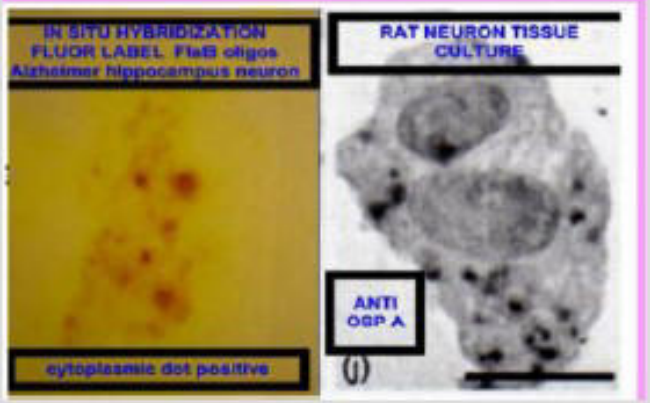
GVB



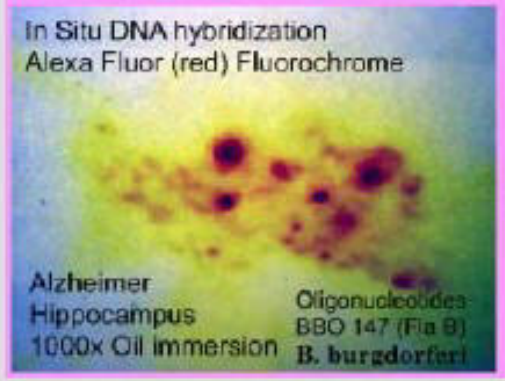
In Situ Dna and Rat Tissue culture



Miklossy
Rat nerve cell
H5332 monoclonal +



MacDonald
human Alzheimer In situ DNA



Borrelia Biofilms Dwell Inside of Amyloid Alzheimer's Plaques:

1000 consecutive Plaques Examined

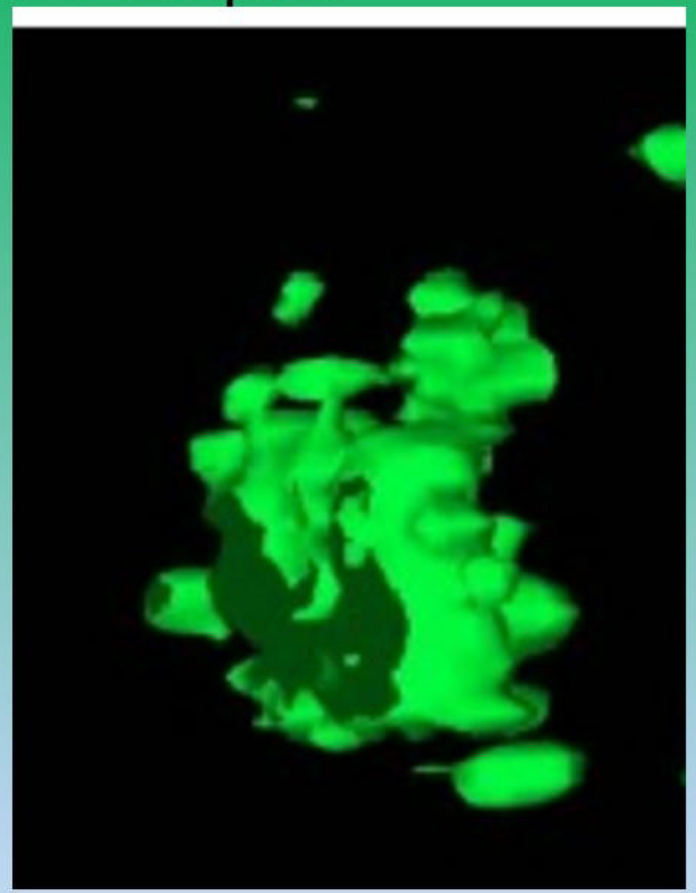
By

Alan B. MacDonald, MD,

Fellow, College of American Pathologists

3 Dimension Reconstruction of Plaque

Plaque of Alzheimer's Disease:
A Mix of
Solid and Empty spaces



Amyloid

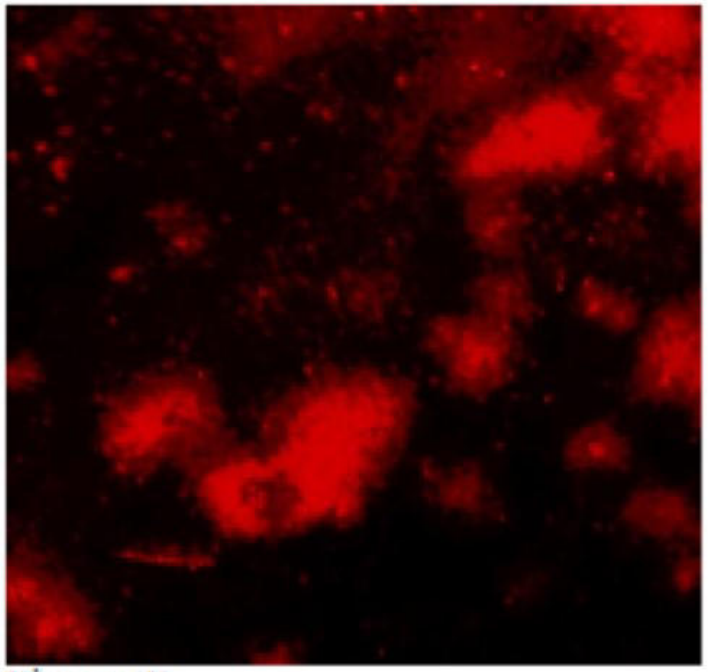


Figure 6F

Hippocampus. Congo Red stain only (American Master Tech Product STCRE 00) Amyloid color red

Biofilm

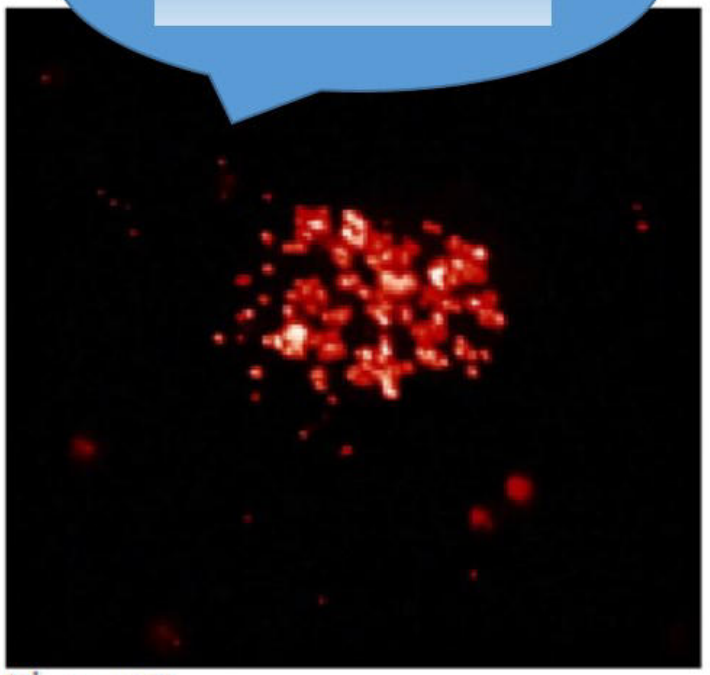


Figure 6G

Hippocampus, Fluorescence In Situ Hybridization only (FISH) for ***Borrelia*** specific DNA/mRNA (white and red). A biofilm-like community of ***Borrelia*** microbes (granular ***Borrelia***) in high density, showing a rounded contour. Rounded Amyloid plaques are very similar with rounded image profiles and in plaque diameters.
Probe: TCA GCC ATA AAT GCT TCC AGA AAT AAT

Biofilm

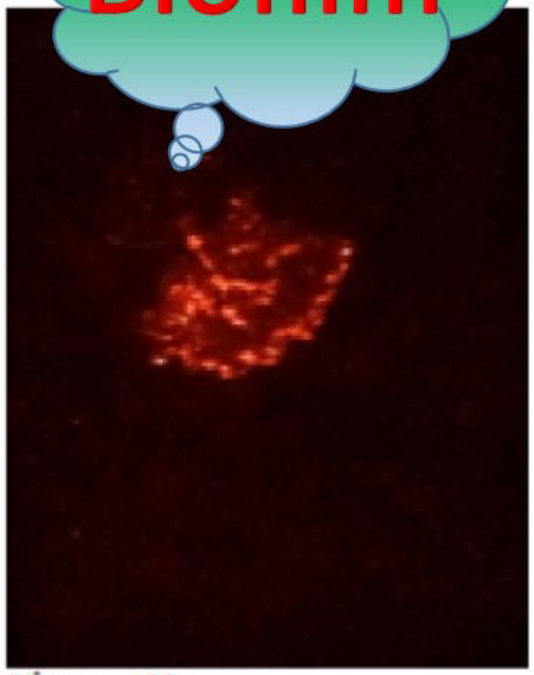
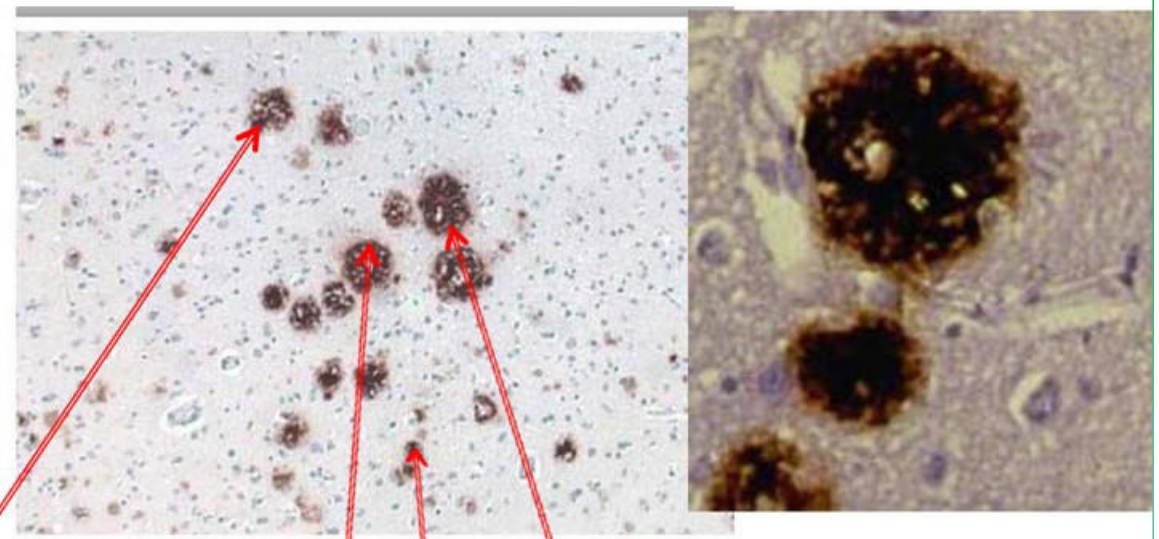


Figure 6H

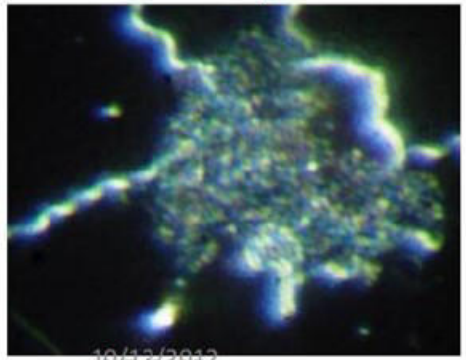
Hippocampus. Same figure legend as for figure 6G

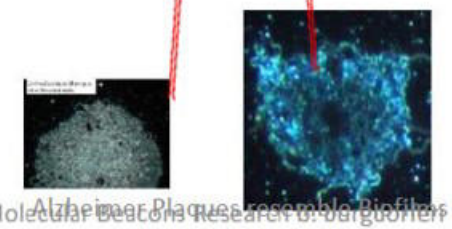
Dr Alois Alzheimer – with Morphing of Alzheimer plaques on his portrait

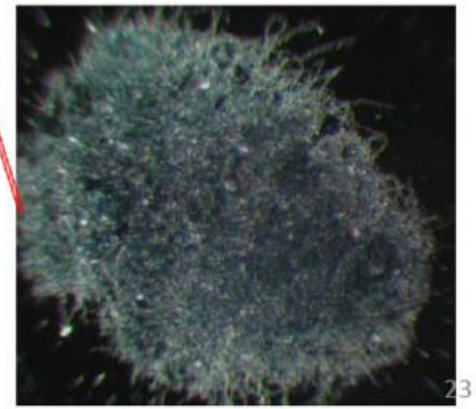


Alzheimer plaques - google

Borrelia Biofilm Units





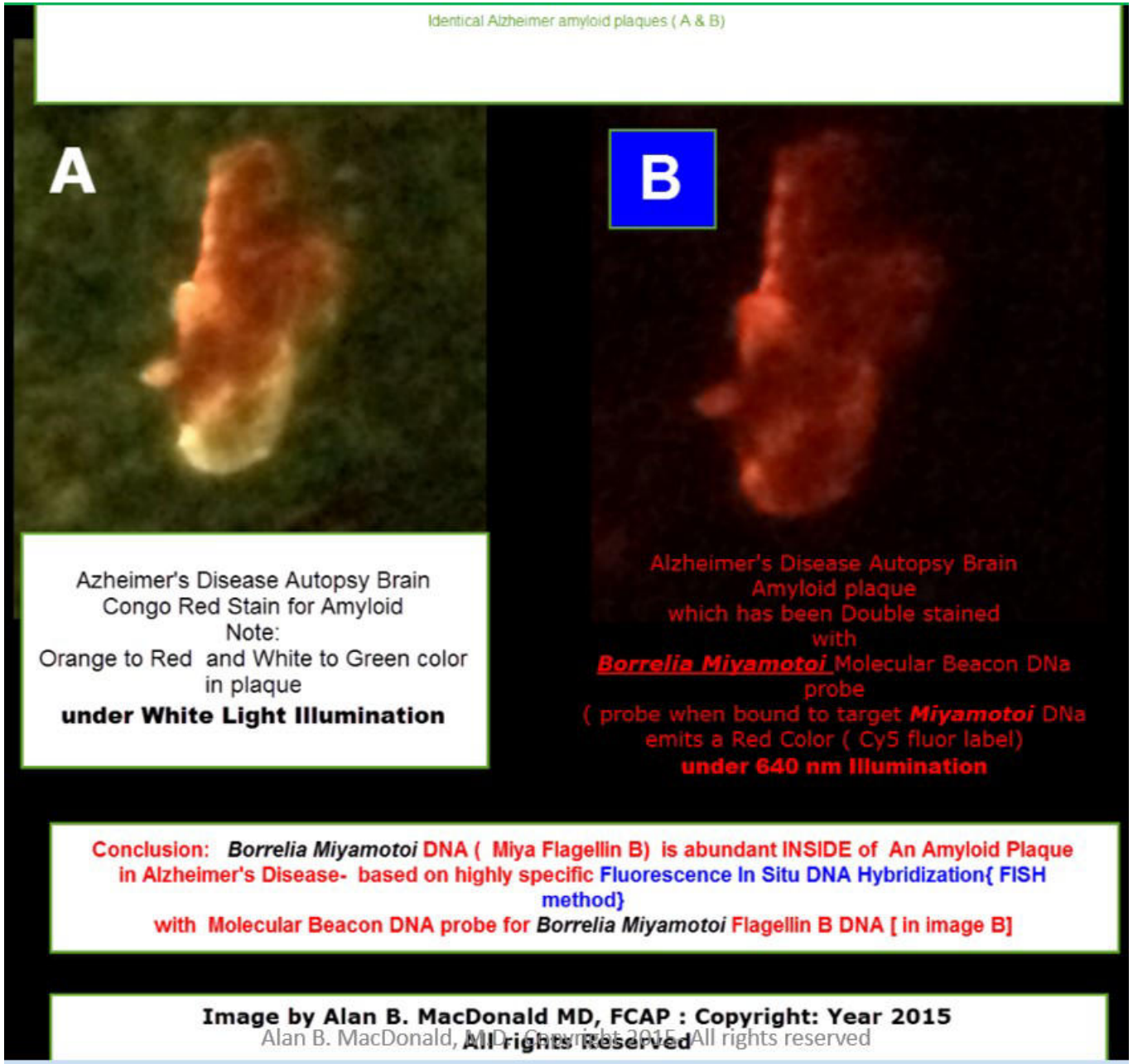


Alzheimer Plaques resemble Biofilms of borrelia burgdorferi

Experimental Methods:

1. Autopsy confirmed diagnosis – Alzheimer's
   CERAD criteria, Immunostains B1-42,pTAU
2. Recut Glass slides – Hippocampus
3. Molecular Beacon Dna Probes :
   In situ DNA Hybridization [FISH method]
4. Amyloid Stains performed (CR or Tt stain)
5. Control slides run in parallel
6. Photomicrographs : Locked Field of View
   Amyloid Plaque [A] / Borrelia by Dna probe [B]

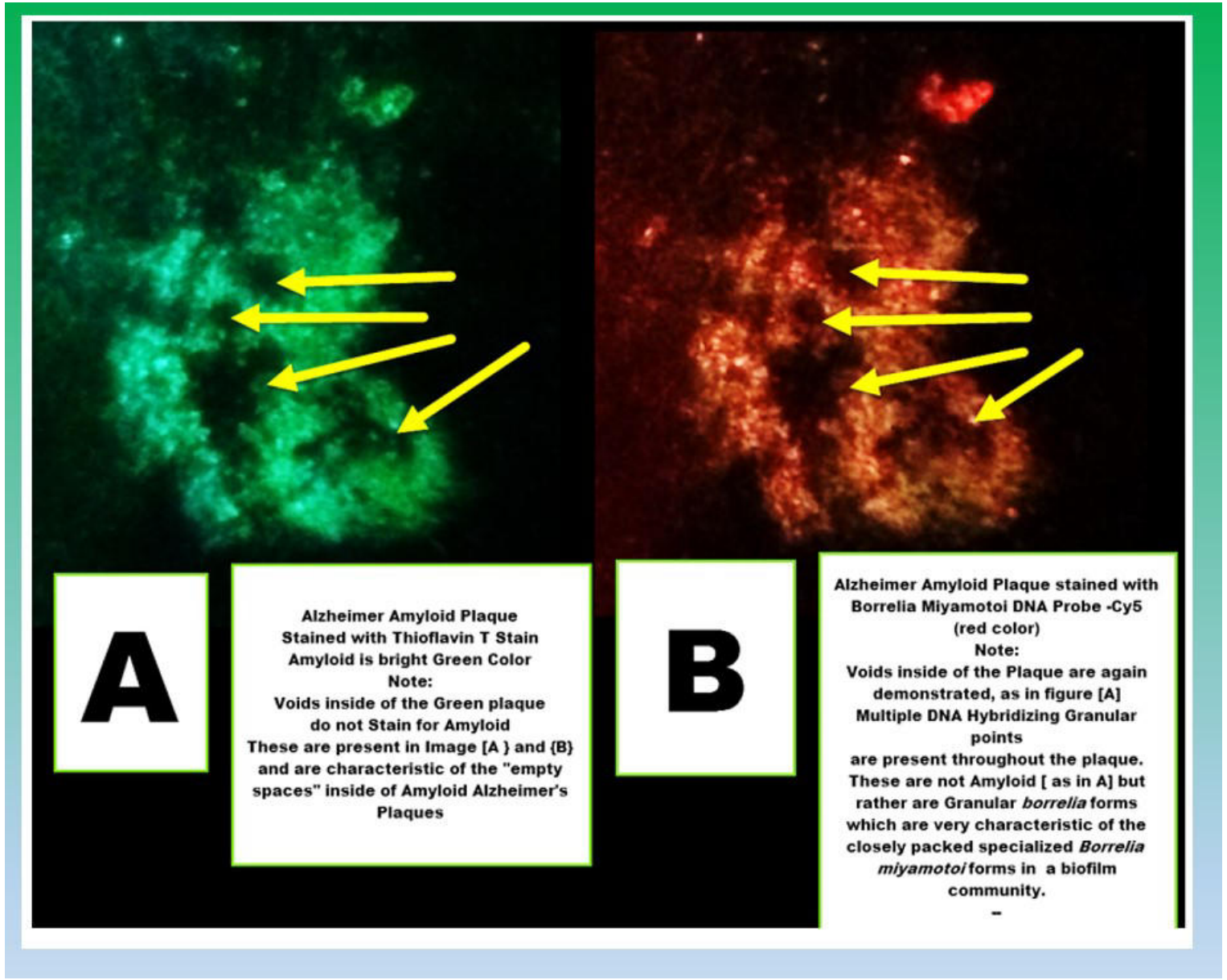
Identical Alzheimer amyloid plaques (A & B)



- Green color –
Amyloid –
Thioflavin T stain

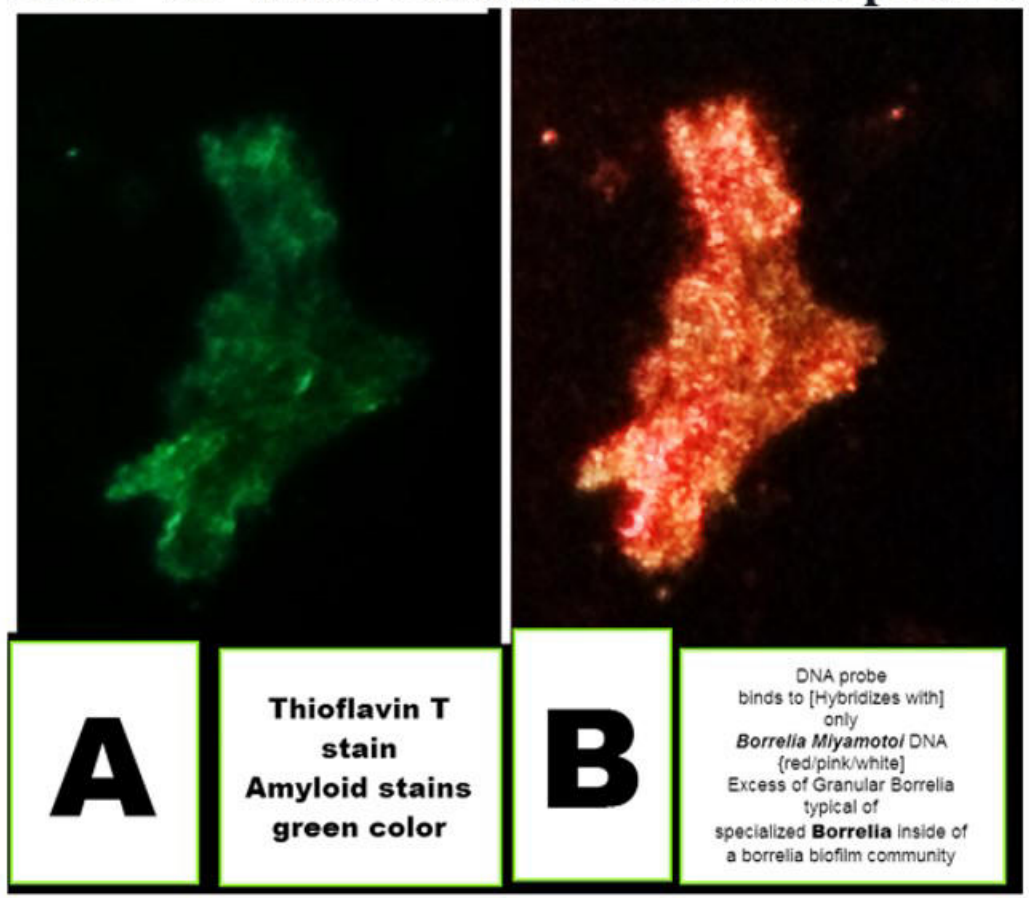
Green color

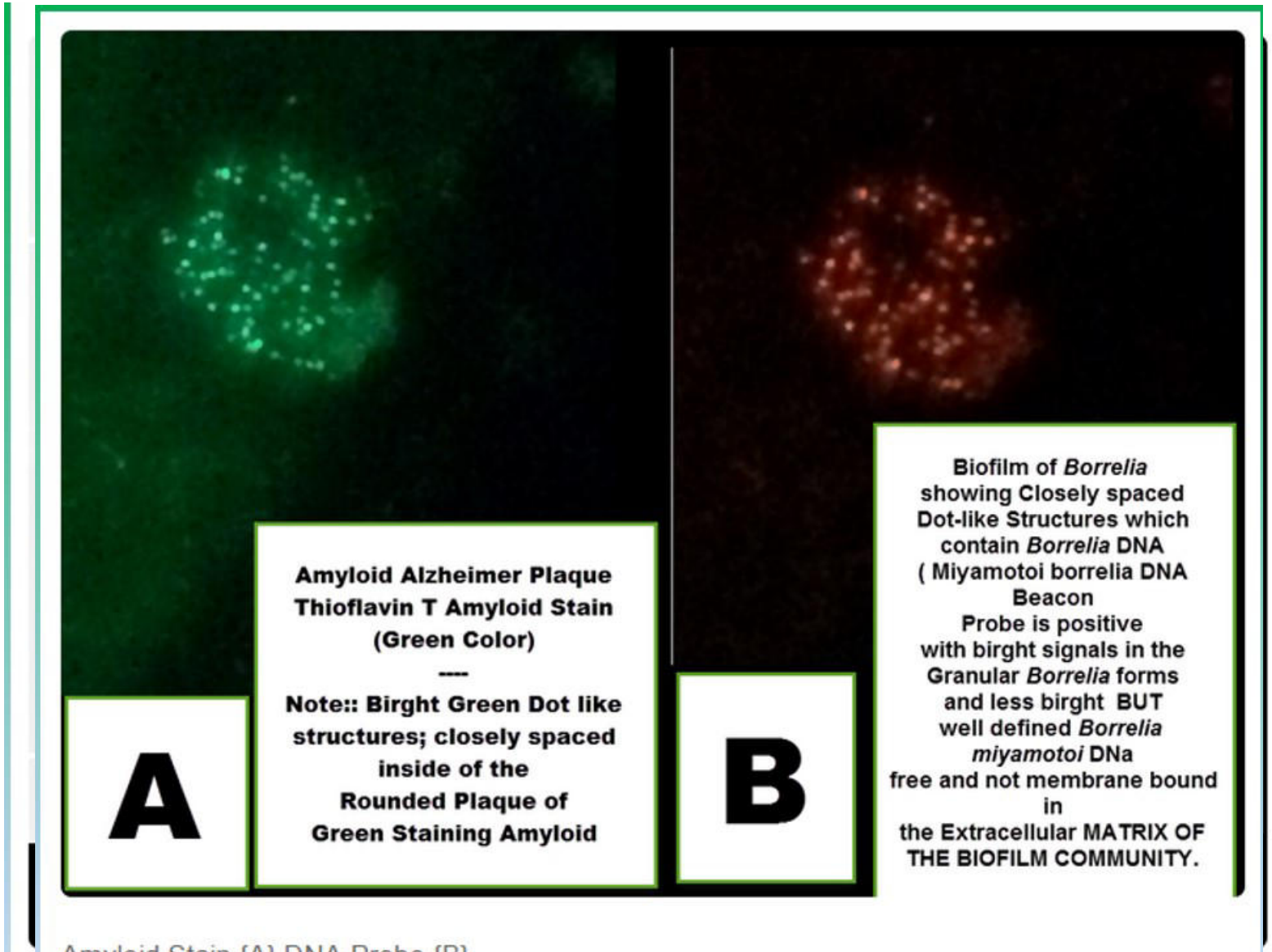
Living Biofilm Inside Plaque


A
Alzheimer Amyloid Plaque
Stained with Thioflavin T Stain
Amyloid is bright Green Color
Note:
Voids inside of the Green plaque
do not Stain for Amyloid
These are present in Image [A } and {B}
and are characteristic of the "empty
spaces" inside of Amyloid Alzheimer's
Plaques
B
Alzheimer Amyloid Plaque stained with
Borrelia Miyamotoi DNA Probe -Cy5
(red color)
Note:
Voids inside of the Plaque are again
demonstrated, as in figure [A]
Multiple DNA Hybridizing Granular
points
are present throughout the plaque.
These are not Amyloid [as in A] but
rather are Granular borrelia forms
which are very characteristic of the
closely packed specialized Borrelia
miyamotoi forms in a biofilm
community.

Gallery of Amyloid Plaques and indwelling *Borrelia* Biofilm communities (3)

Note: No Water Channels seen in this plane of View: [A] [B]





Amyloid Stain {A} DNA Probe {B}

Essential: Teachable Moment: *Borrelia* Biofilms - Structure

- 1. Specialized ***Borrelia*** : ***Inside*** the Biofilm COMMUNITY

Granular *Borrelia*-

A. **Small , dot like Profiles**: [NO Spirals]

B. LIVING legitimate ***Borrelia*** forms – "GRANULAR"

C. **"Membrane Bound"** DNA containing life forms

D. DNA and RNA – Bright Signal DNA by Probes

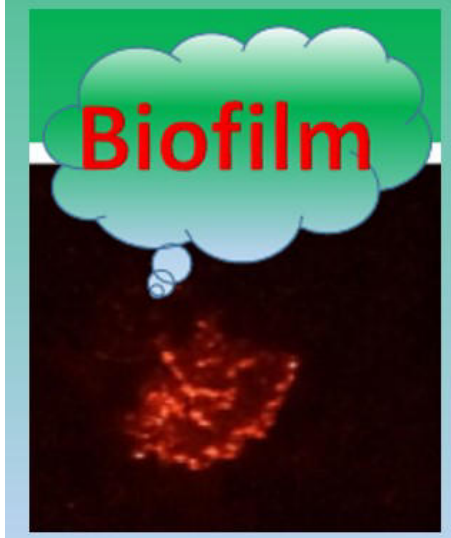
E. Granular *Borrelia* Growth- Increase in number over time

F. **Protected by Matrix of biofilm** -Gel like investment

Essential: Biofilm Borrelia Communities

- **Matrix of biofilm-** protective role –

2. Matrix **"Surround":** for Living Biofilm Community



Extracellular - i.e. separate from " Membrane Bound"

Viscous, Thick

Composition: **Extracellular DNA** , Extracellular Proteins etc.

Origin: **Remnants of Once Living**, but now Dead microbes

Water Channels: Empty spaces, in a Network:

Nutrition Conduits, Waste (sewer) Conduits

Supports, Protects, Insulates the Community