Interventions for Alzheimer's Disease

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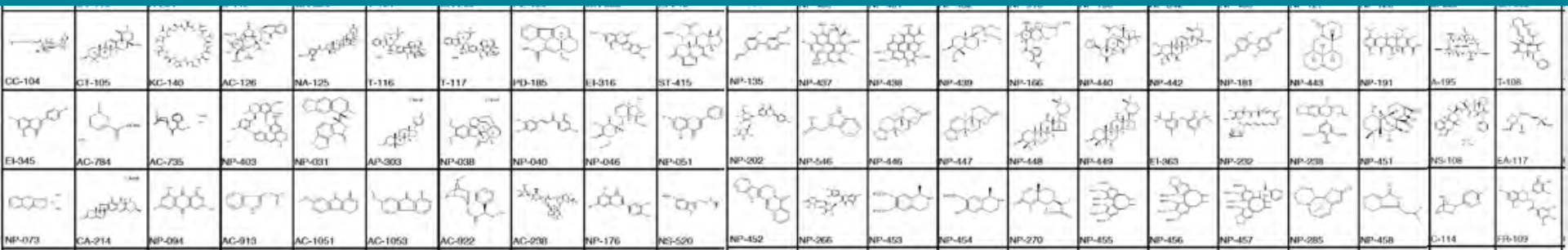
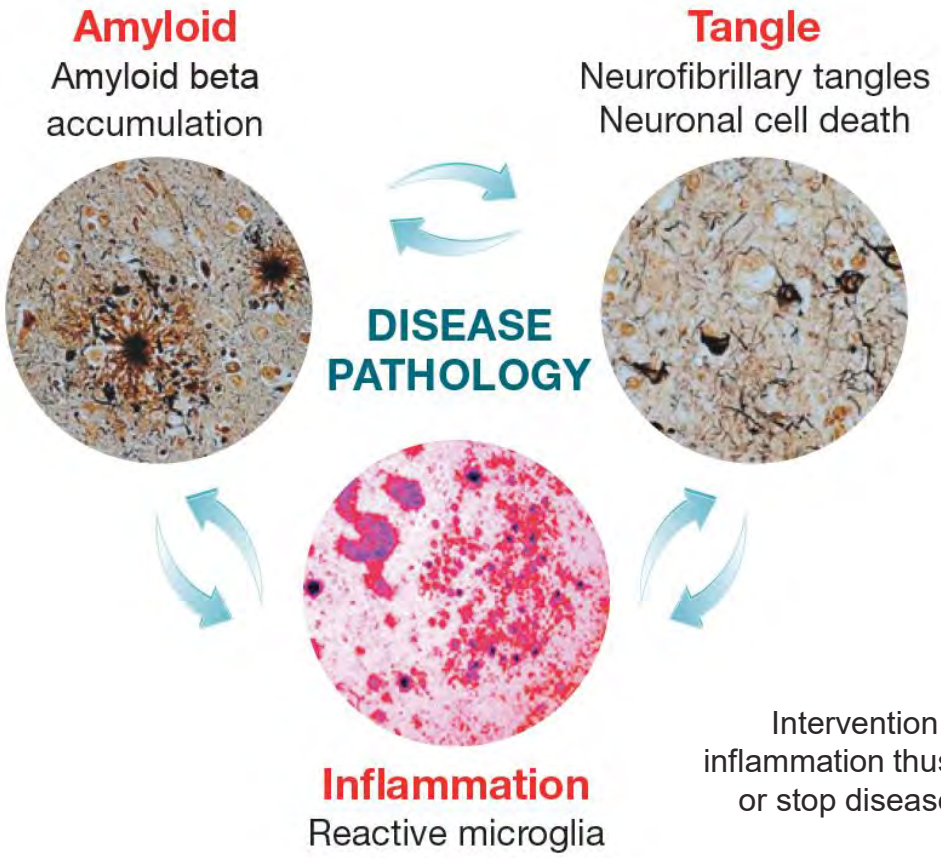
Conrad Prebys Center for Chemical Genomics,

Sanford Burnham Prebys Medical Discovery Institute



Interventions for Alzheimer's Disease

Intervention to inhibit Aβ production and/or clearing it to reduce plaques



Intervention to inhibit formation of tau tangles & protect neurons from undue stress

Intervention to fight inflammation thus slow down or stop disease process

Discovery and Development of new treatments for dementia

1. Break through discoveries about the process driving dementia
2. Identifying the key molecule (target) driving these processes
3. Search for chemicals that act on those molecules
4. Refine the chemicals with the best properties to be a new drug
5. Select those most affective at tackling dementia (models)
6. Explore in a clinical trail if the drug is safe an effective
7. Make cutting edge treatments available as soon as possible to patients

ALZFORUM
NETWORKING FOR A CURE

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DISEASE

- Alzheimer's Disease (2532)
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- Vascular Dementia (65)

ALL NEWS 5424 RESULTS

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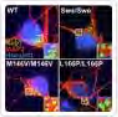
1 2 3 4 5 ... 362 ›

Familial AD Mutations, β-CTF, Spell Trouble for Endosomes

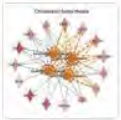


6 COMMENTS

19 Aug 2019

Using a collection of isogenic iPSC-derived neurons harboring different familial AD mutations, researchers found that, across the board, the mutations meddled with endosomes via elevated β-CTF.

ApoE4 Glia Bungle Lipid Processing, Mess with the Matrisome



2 COMMENTS

16 Aug 2019

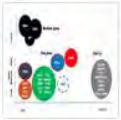
The phenotype of ApoE4 astrocytes and microglia resembles that of these cells in Alzheimer's brain. Could defects in lipid metabolism and the extracellular matrix bring on the disease?

Paper Alert: MS4A Variants May Sway Alzheimer's Risk Via TREM2

15 Aug 2019

Different polymorphisms in MS4A genes up- or downregulate levels of TREM2, modulating levels of the shed ectodomain in the cerebrospinal fluid and AD risk.

Geneticists Seek Out Rare Contributors to Alzheimer's



15 Aug 2019

New genes linked to early and late-onset AD offer up mechanistic insight, potential targets for treatment.

San Diego's Neuroscience Research Community

Accelerating drug discovery to develop new treatments for dementia

COLLABORATION4CURE

END ALZHEIMER'S

- Focus on finding treatments – innovative new medicines
- Fund critical experiments to enable Alzheimer's disease drug discovery projects from San Diego-based research scientist and clinicians
- Apply for major translational grants (National Institute Ageing) to fund the initiative

SBP Sanford Burnham Prebys MEDICAL DISCOVERY INSTITUTE

SALK INSTITUTE

UCSD

Scripps Research

La Jolla Institute FOR ALLERGY AND IMMUNOLOGY

J. Craig Venter INSTITUTE

Current C4C Targets / Pathways

Dr Brian Spencer

CB-1/2

Dr. Jerold Chun

AD-RT

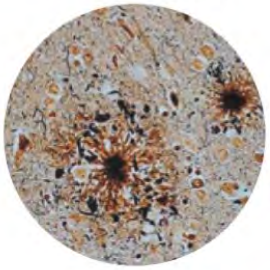
Dr. Lutz Tautz

STEP

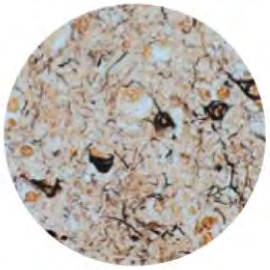
Dr. Michael Jackson

CD33

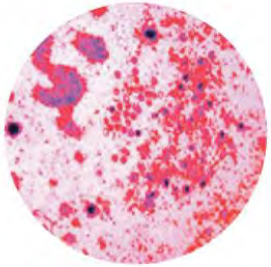
Amyloid
Amyloid beta accumulation



Tangle
Neurofibrillary tangles
Neuronal cell death



DISEASE PATHOLOGY



Inflammation
Reactive microglia

CRF-R1

Dr. Robert Rissman

EphA4

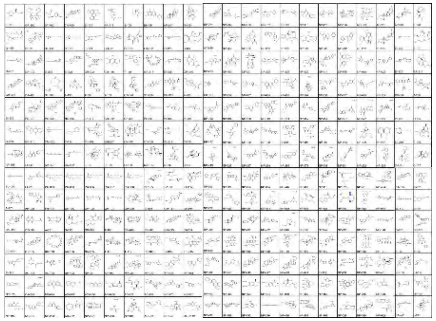
Dr. Elena Pasquale

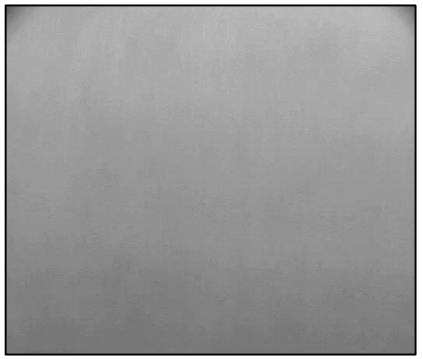
TREM2

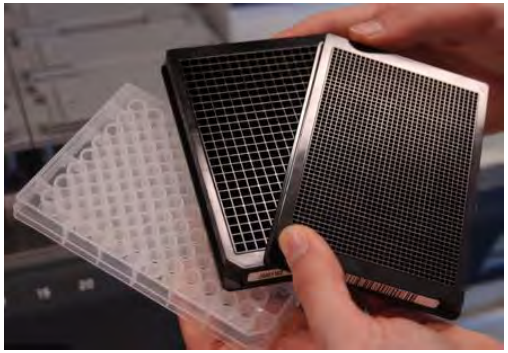
Dr. Huaxi Xu

Collection of
> 1 million drug
like chemicals

Technology – a helping hand







Sanford Burnham Prebys
Drug Discovery Center

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5 projects are advancing through stage 3 towards new drugs