

Brein in brand!

De rol van ontstekingsprocessen in psychiatrische aandoeningen

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1. Inleiding

- a. SINAPS?
- b. Schizofrenie, depressie, bipolaire stoornis?
- c. Neuroinflammatie in psychiatrie

2. Eigen onderzoek

- a. Depressie en inflammatie
- b. Schizofrenie en microglia
- c. Post-mortem onderzoek naar neuroinflammatie
- d. Lopende onderzoeken

Inleiding



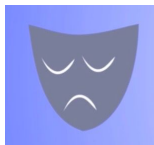
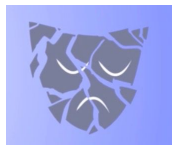




SINAPS



Wetenschappelijk onderzoek naar
psychiatrische aandoeningen
schizofrenie, majeure depressie, bipolaire stoornis



SINAPS

Psychopharmacological trials



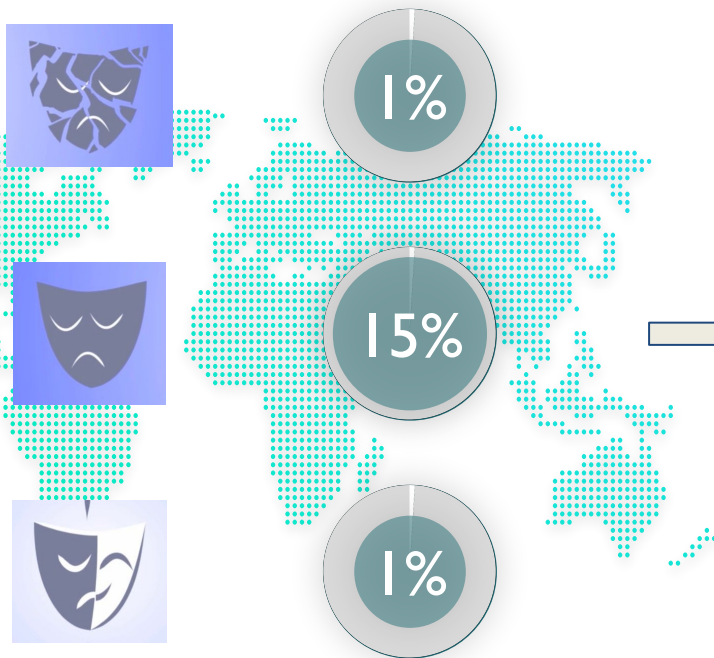
Clinical studies



Neuroinflammation studies



Prevalentie



Suïcidepoging

30-50%

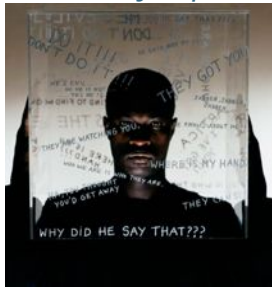
Succesvol



10-15%



Positieve symptomen



Wanen, hallucinaties,...

Negatieve symptomen



*Spraakarmoede,
afgevlakt affect,...*

Cognitieve symptomen



*Verstoorde aandacht,
geheugen,...*

Schizofrenie

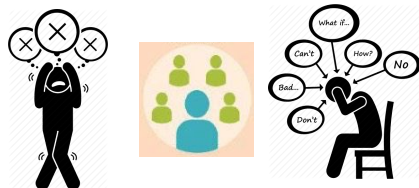
Motorische symptomen



*Katatonie, psycho-
motorische vertraging,*

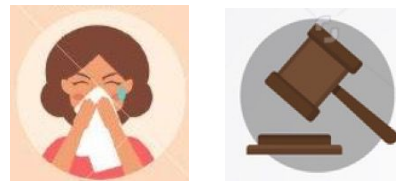


Geassocieerde symptomen



*Piekeren, angst, onrust,
sociale isolatie*

Emotionele symptomen



*Triestheid, schuld-
gevoelens, desinteresse*

Depressie

Cognitieve symptomen

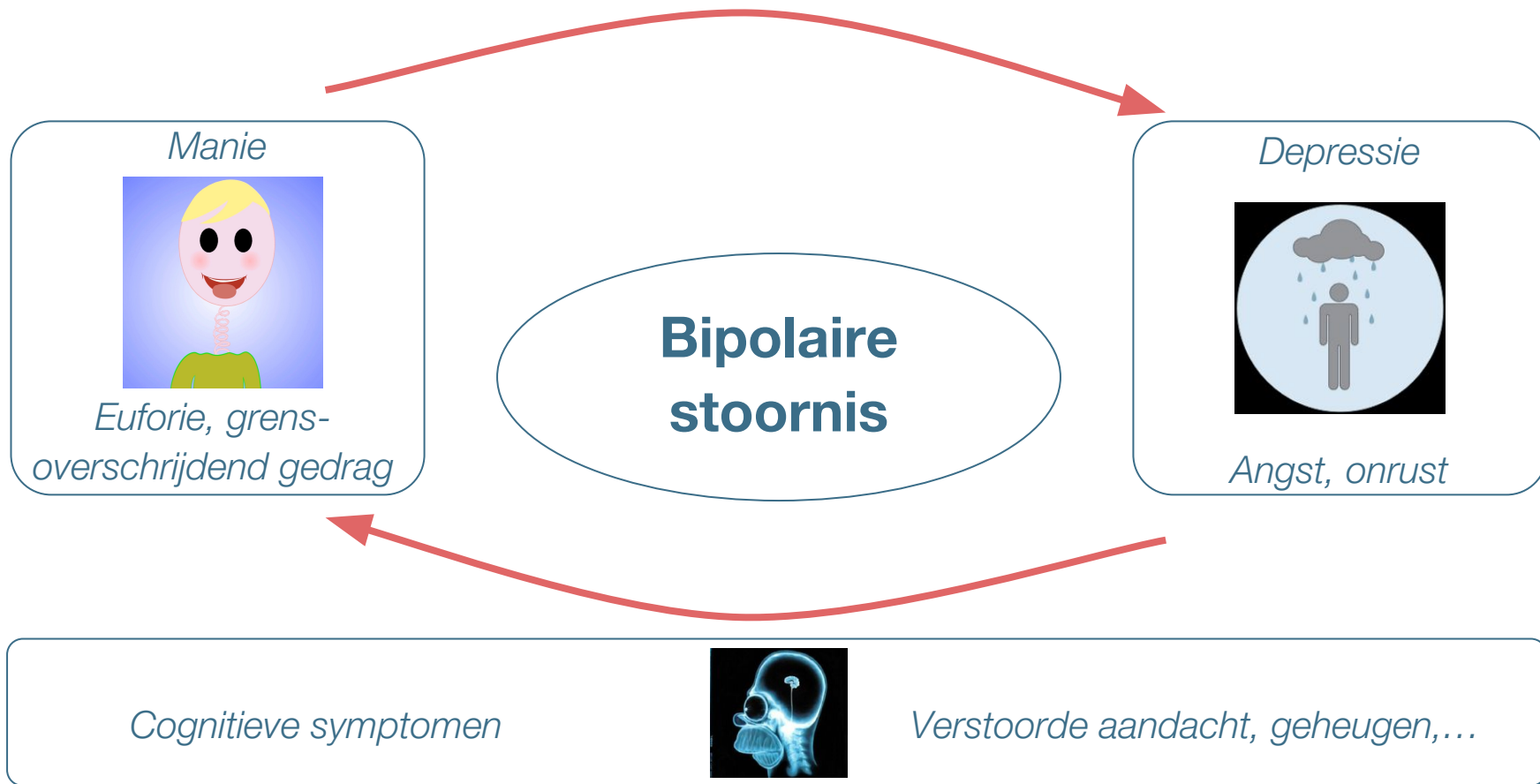


*Verstoorde aandacht,
geheugen,...*

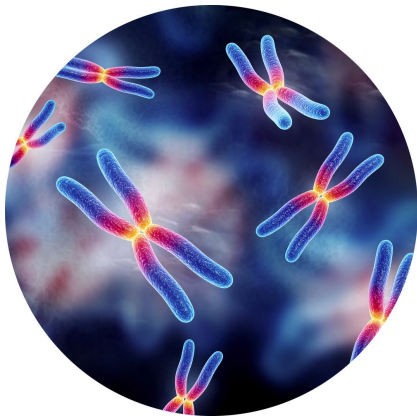
Fysieke symptomen



Energie, eetlust, slaap



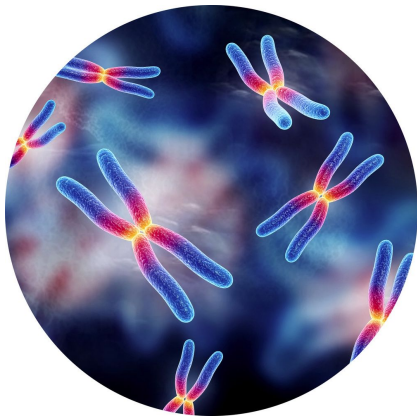
Genen



Omgeving

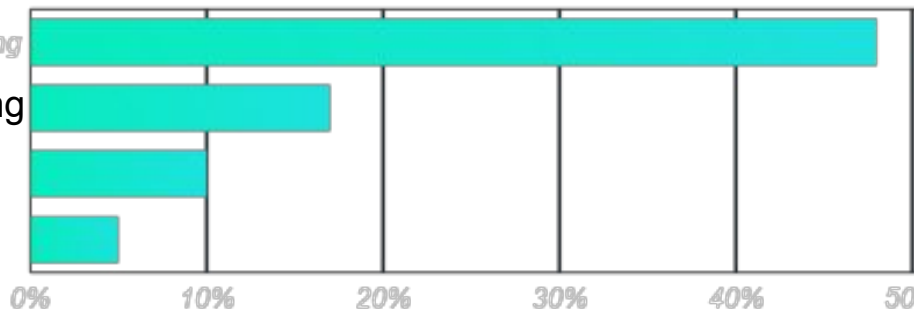


Genen

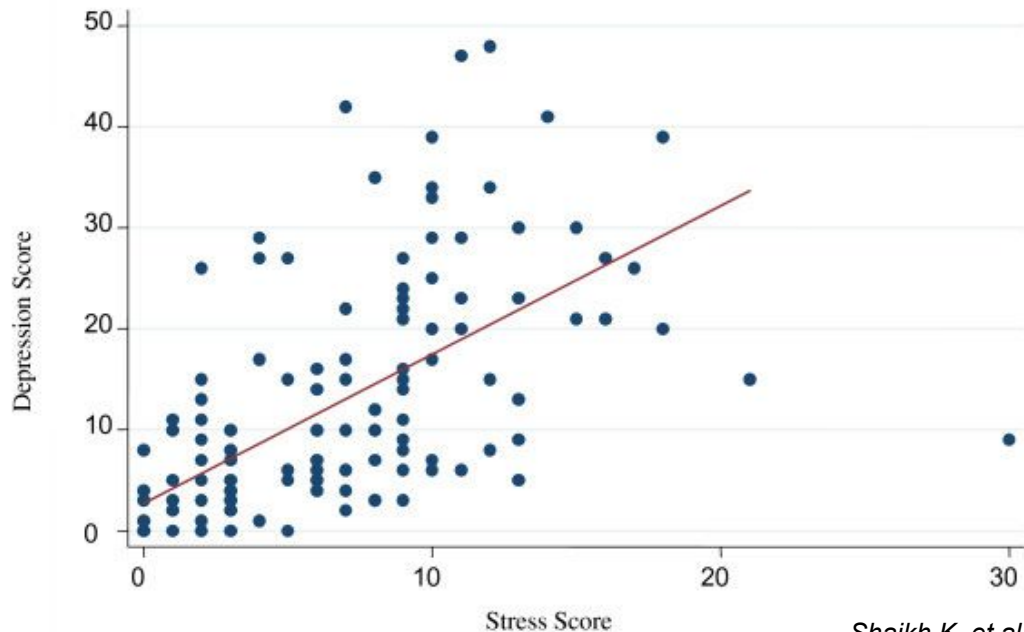


Schizofrenie als erfelijke aandoening

Eeneiige tweeling 48%
Twee-eiige tweeling 17%
Broer / Zus 10%
Neef / Nicht / Oom 5%



Depressie door omgevingsfactoren



Shaikh K. et al., 2011

Omgeving

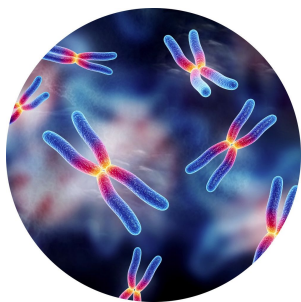


Oorzaken van psychiatrische aandoeningen?

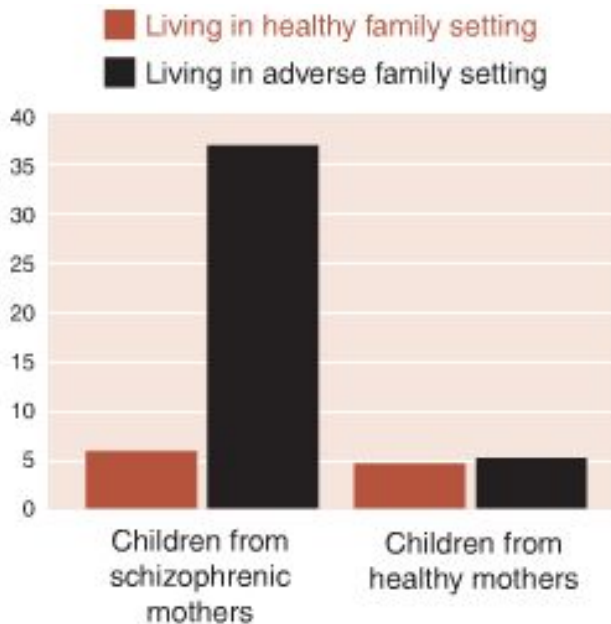
Genen

- *Interactie* -

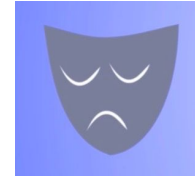
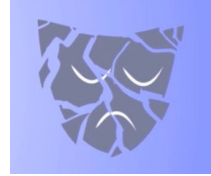
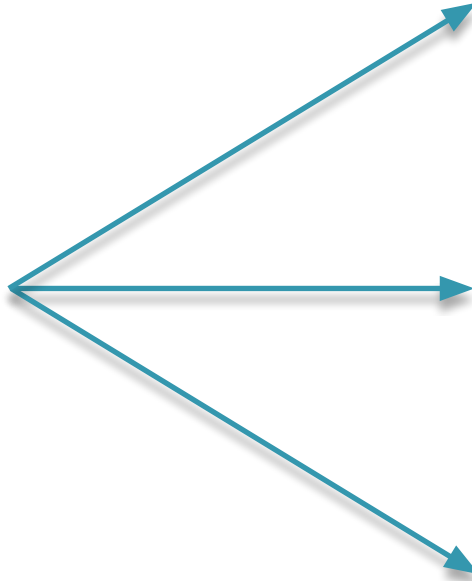
Omgeving



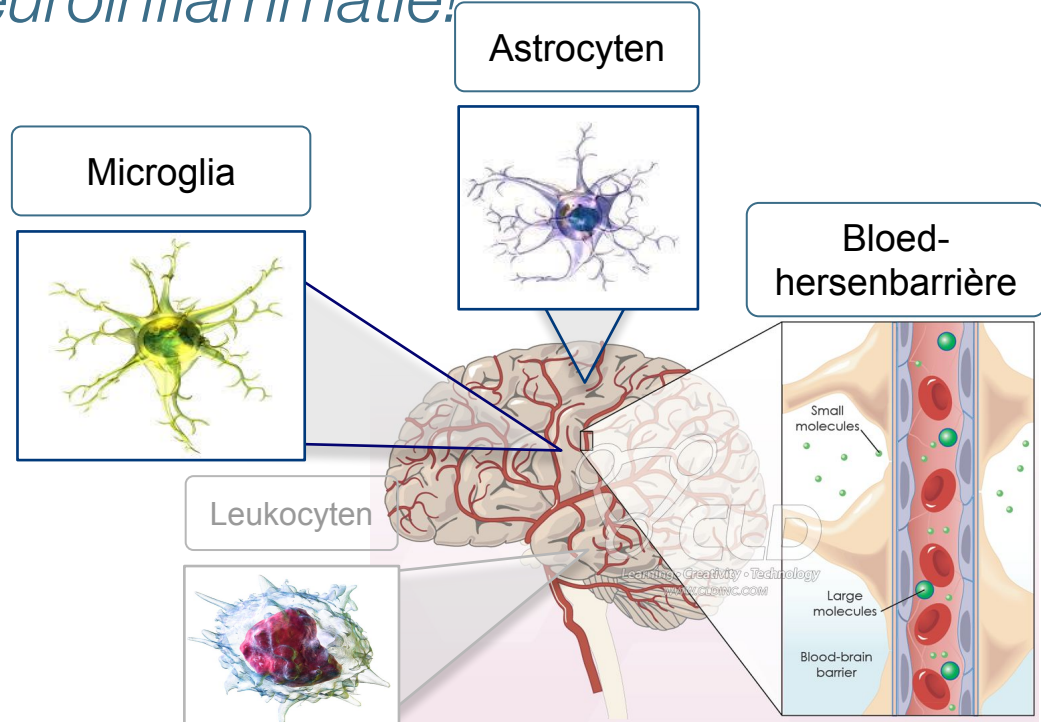
% with
schizophrenic
spectrum
disorder



Neuroinflammatie!



Neuroinflammatie!



Immuunsysteem van de hersenen

Argumenten neuroinflammatie in psychiatrie



maternele infectie



Koortstherapie



Interferontherapie



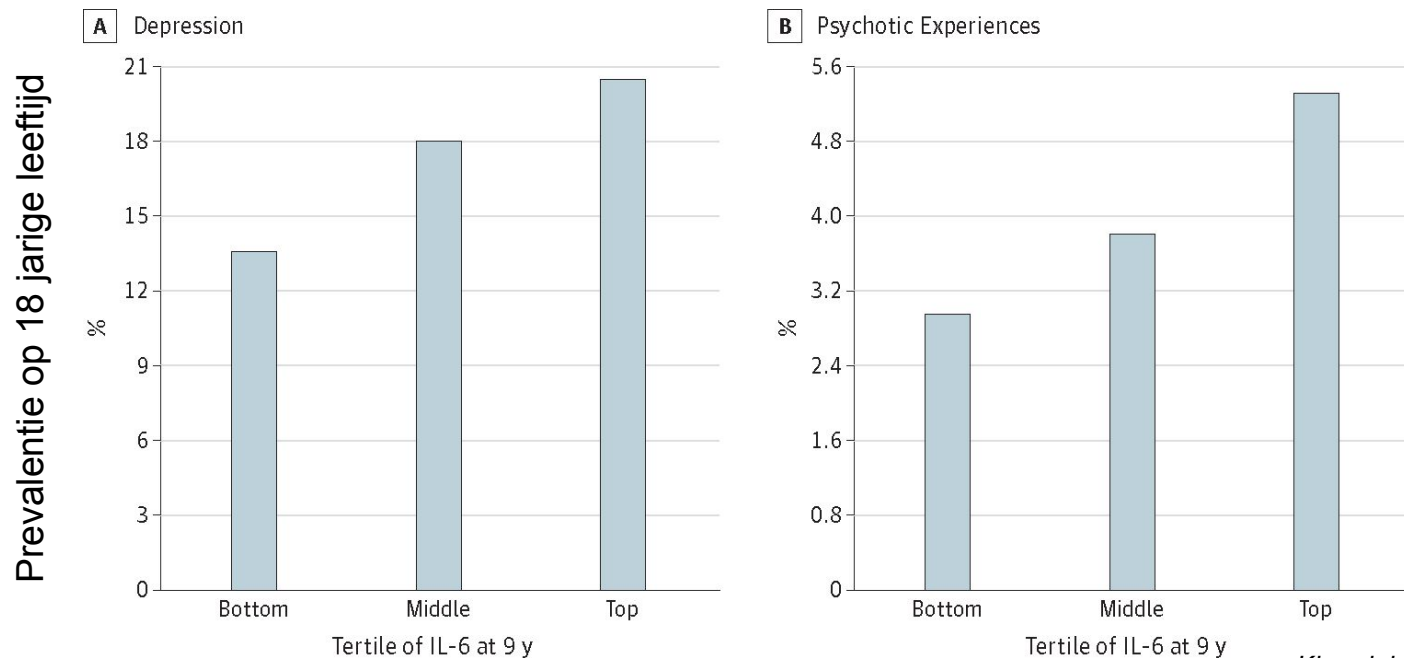
Genetica



Bechterev
Ziekte van Addison
Hashimoto
Ziekte van Graves
Diabetes Mellitus
Coeliakie
Reumatoïde artritis
Pernicieuze anemie

Verhoogde prevalentie bij
AI aandoeningen

Het voorspellend effect van inflammatie voor toekomstige psychiatrische problematiek: De Avon studie

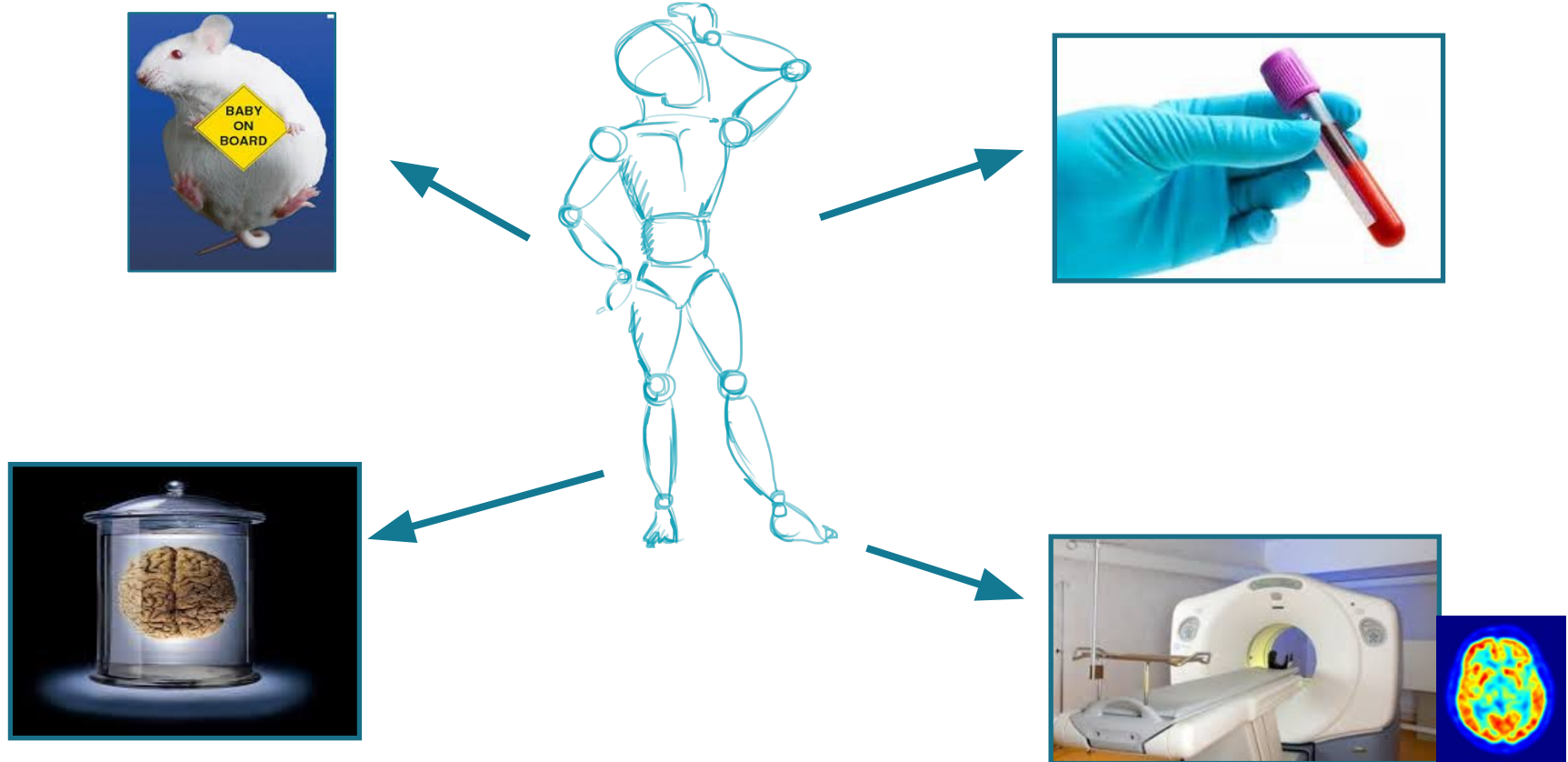


Khandaker G., 2014

Ontstekingsmerker in bloed

Eigen onderzoek!

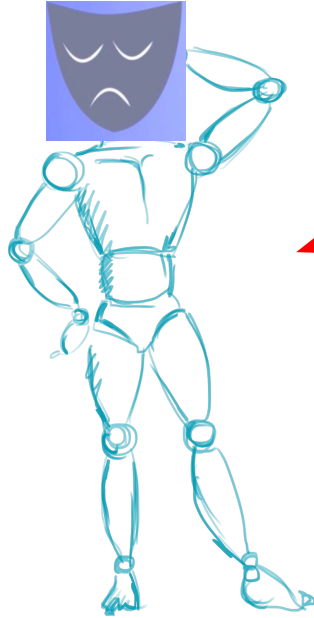


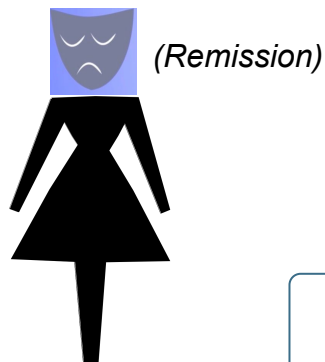




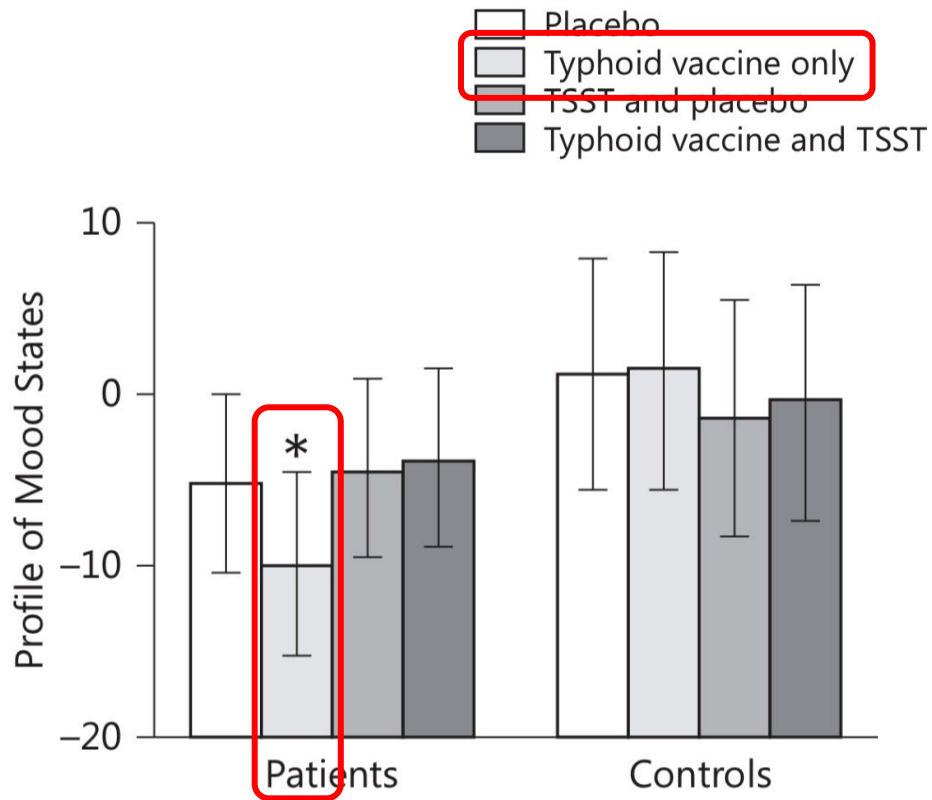
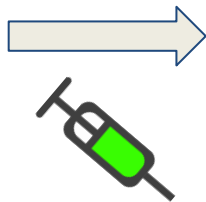
Eigen onderzoek!

Depressie en inflammatie





Tyfus vaccin



We onthouden...

→ Het opwekken van een immuunreactie bij patiënten die voorheen een depressie doormaakten, leidt tot het opwekken van nieuwe depressieve symptomen

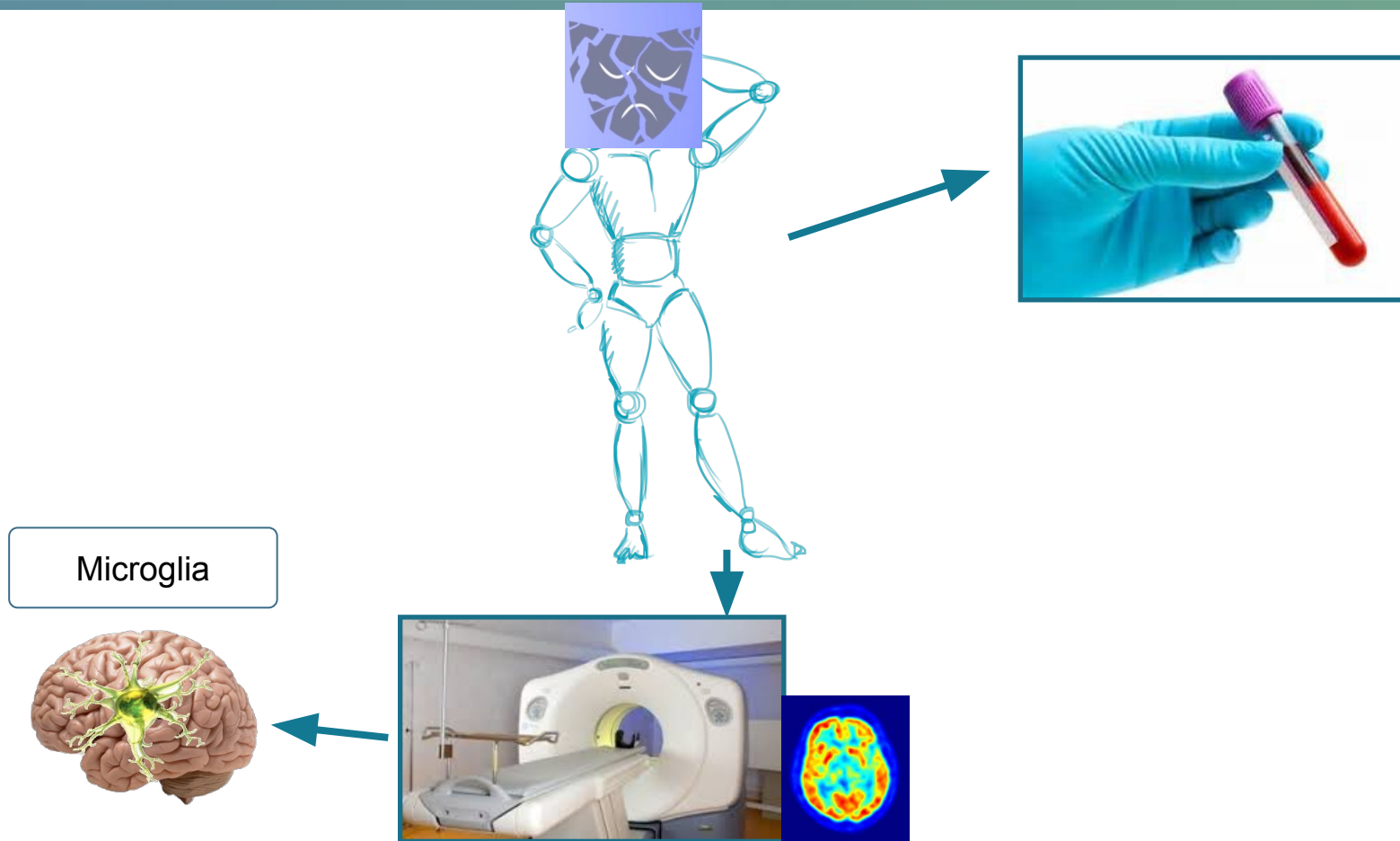


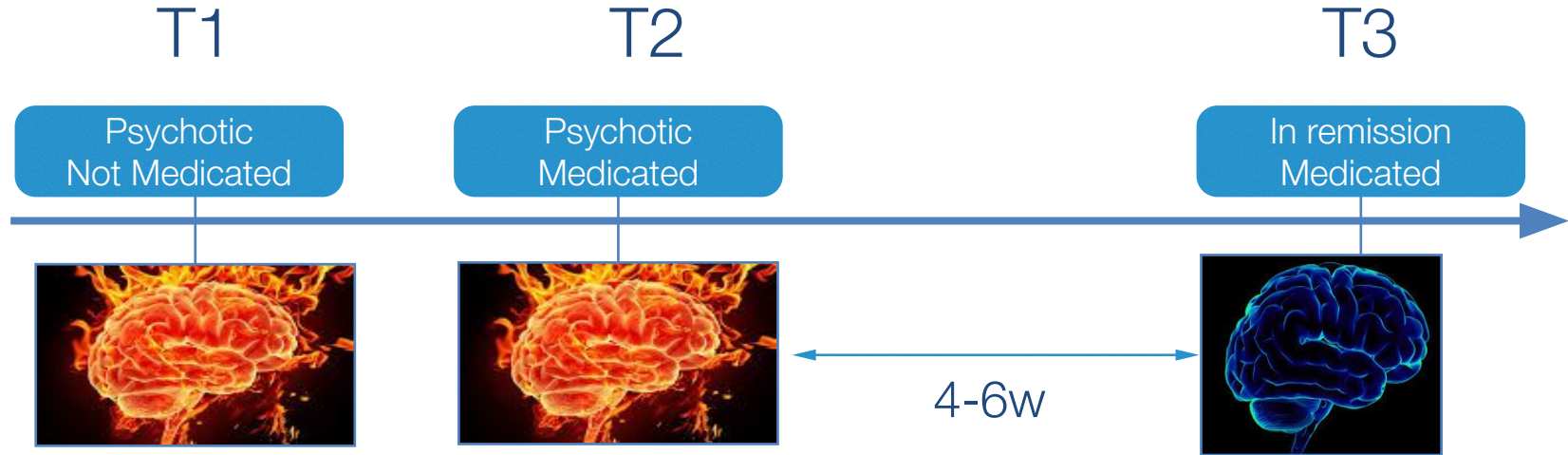


Eigen onderzoek!

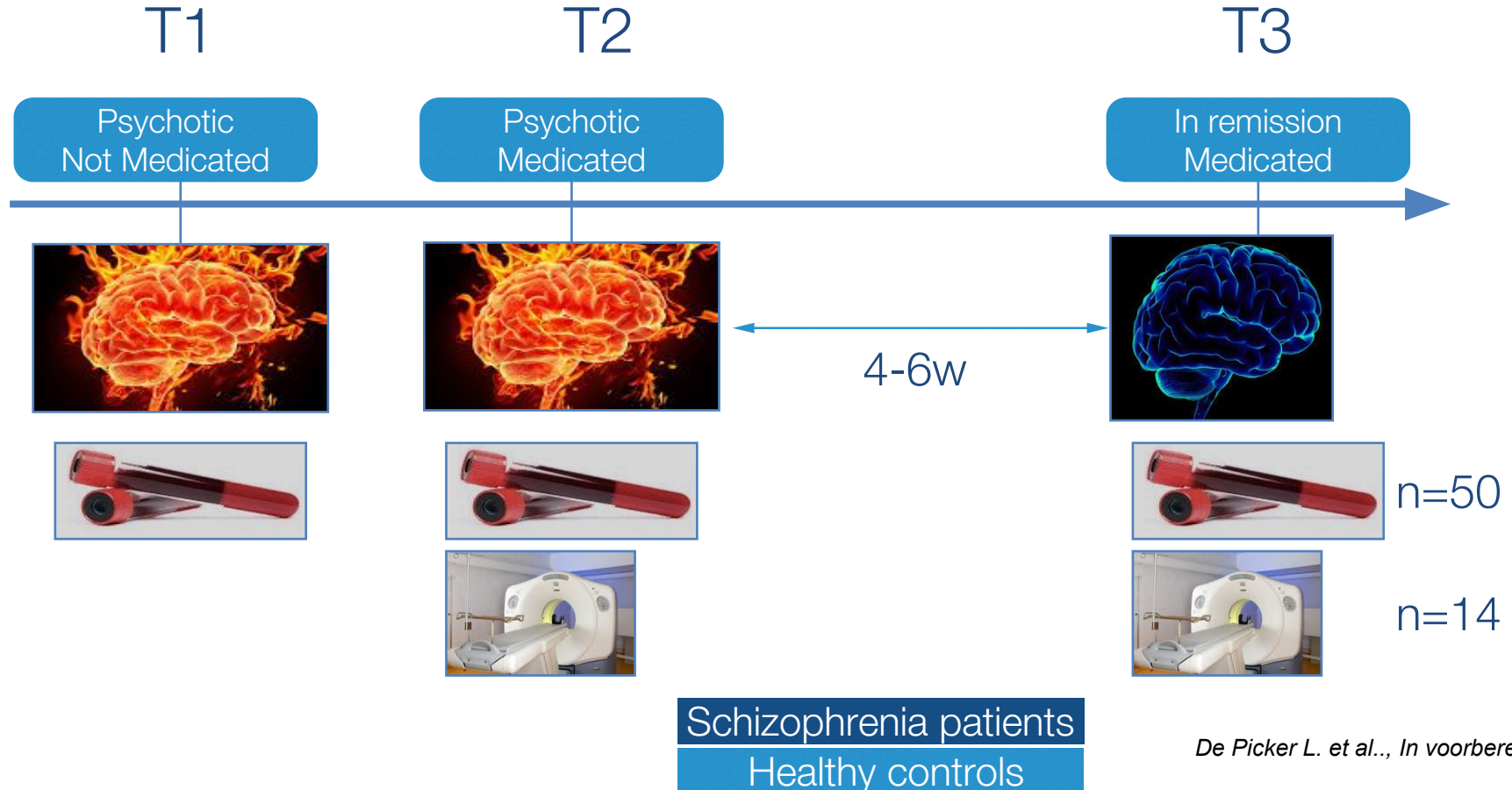
Schizofrenie en microglia

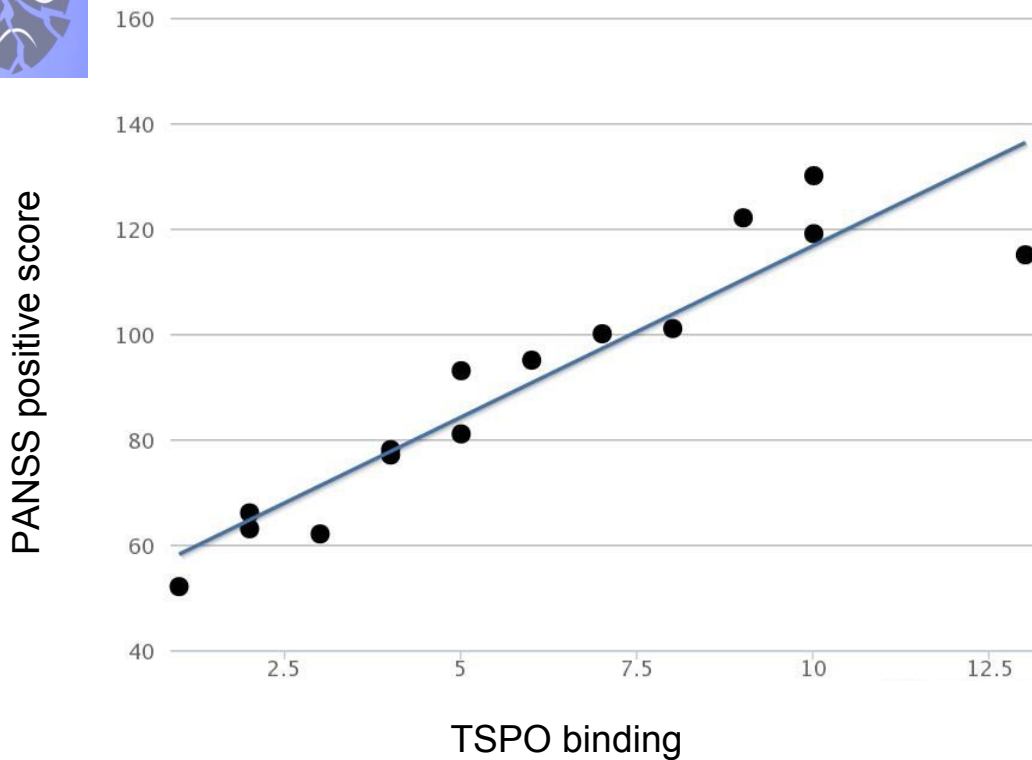
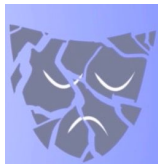
SINAPS Schizophrenie en microglia





Schizophrenia patients
Healthy controls



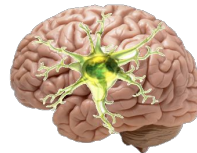


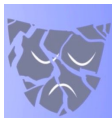
* Grafiek is ter illustratie; geen echte datapunten

	r	P (two-tailed)
Cortical GM	.767	.026*
Cortical WM	.647	.083
Cerebellum	.900	.002*
Brainstem	.778	.023*
Cingulate	.847	.008*
Thalamus	.789	.020*
Basal Ganglia	.869	.005*
Amygdala	.812	.0014*
Hippocampus	1.00	<.001*

De Picker L. et al., In voorbereiding

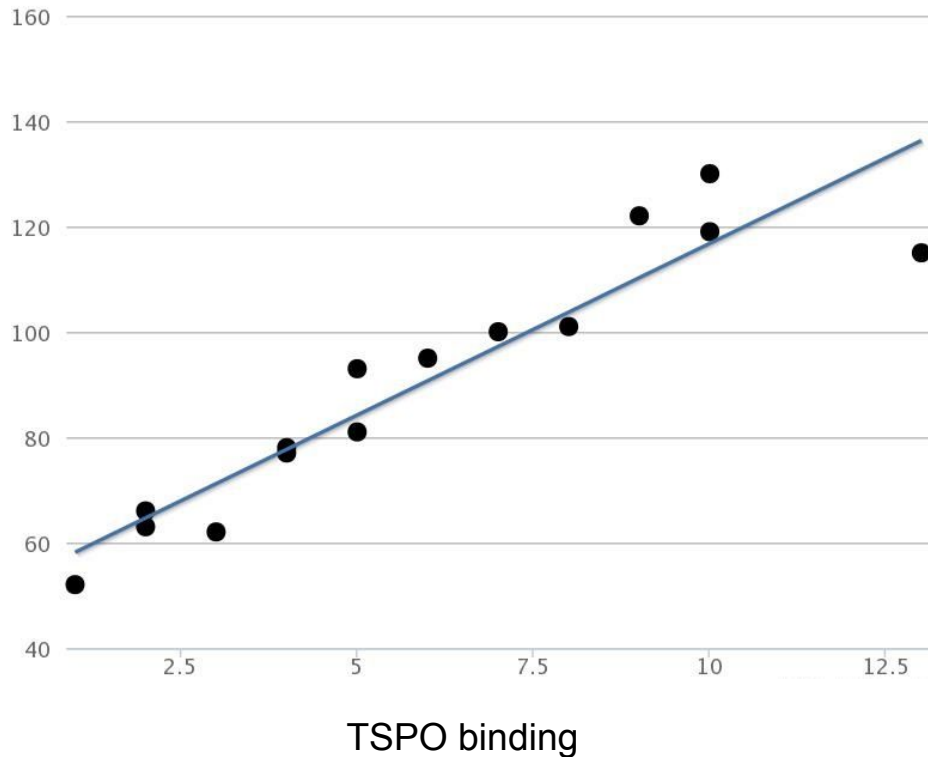
Microglia





Peripheral CRP level

Ontstekingsmarker



* Grafiek is ter illustratie; geen echte datapunten

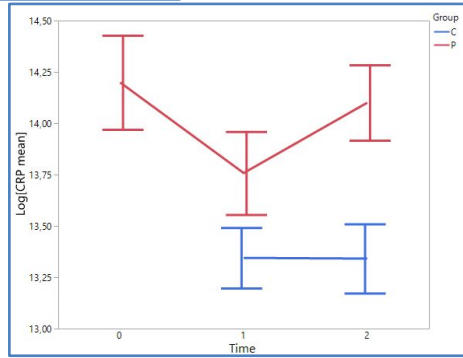
		F	P
Cortical GM	Cohort*time*age ²	13.55	.002*
	Genotype	1.40	.252
	CRP	13.34	.001*
	QA*cohort	13.34	.001*

De Picker L. et al., In voorbereiding

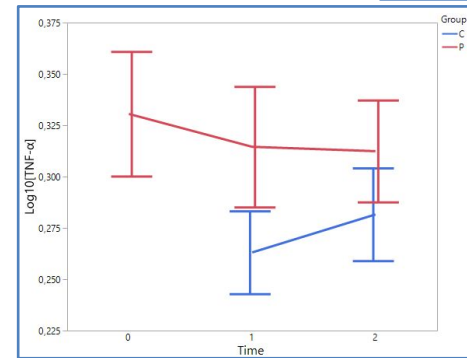
Microglia



CRP



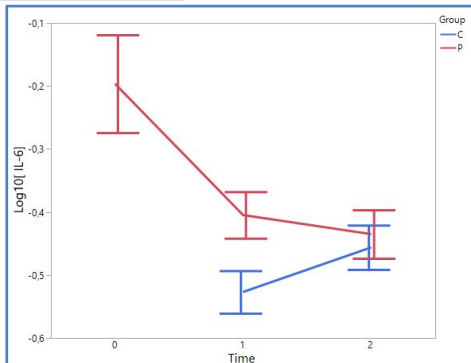
TNF-α



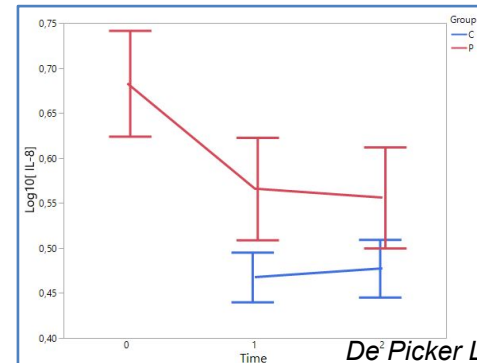
Ontstekingsmerkers

Group $p < .01^*$

IL-6



IL-8



We onthouden...

→ Microglia-activiteit correleert met

- Psychotische symptoomernst
- Ontstekingsmerker (CRP) in het bloed

→ Schizofreniepatiënten hebben meer ontstekingsmerkers in het bloed dan gezonde controles

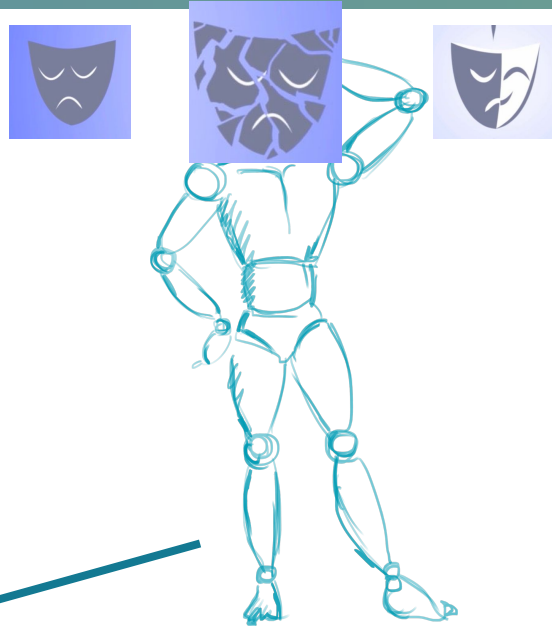




Eigen onderzoek!

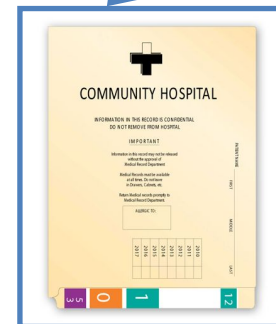
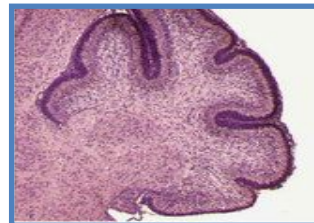
Post-mortem onderzoek

SINAPS Neuroinflammatie post-mortem





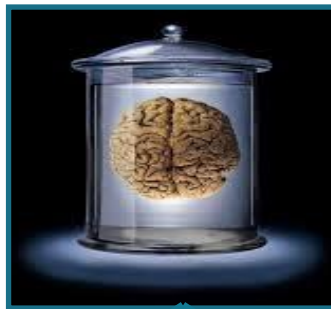
1 casus





SINAPS De UA-Corsellis psychiatrische hersencollectie

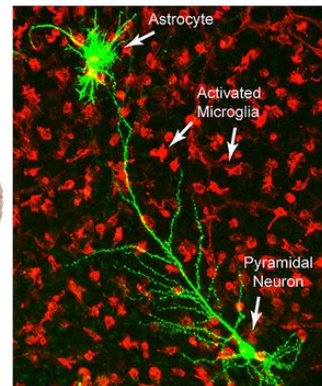
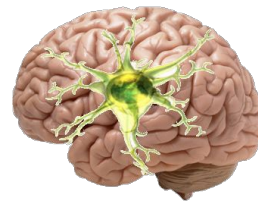


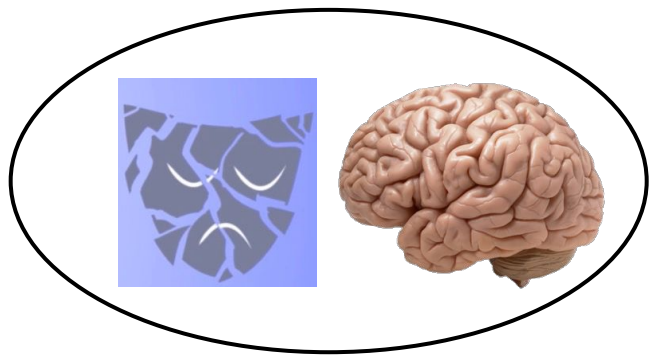


Eiwitanalyse

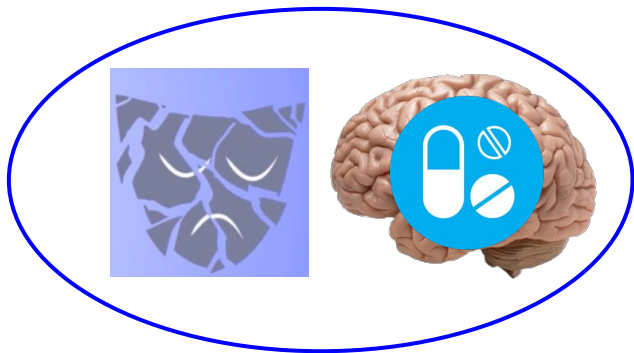


Microscopie
Ongoing



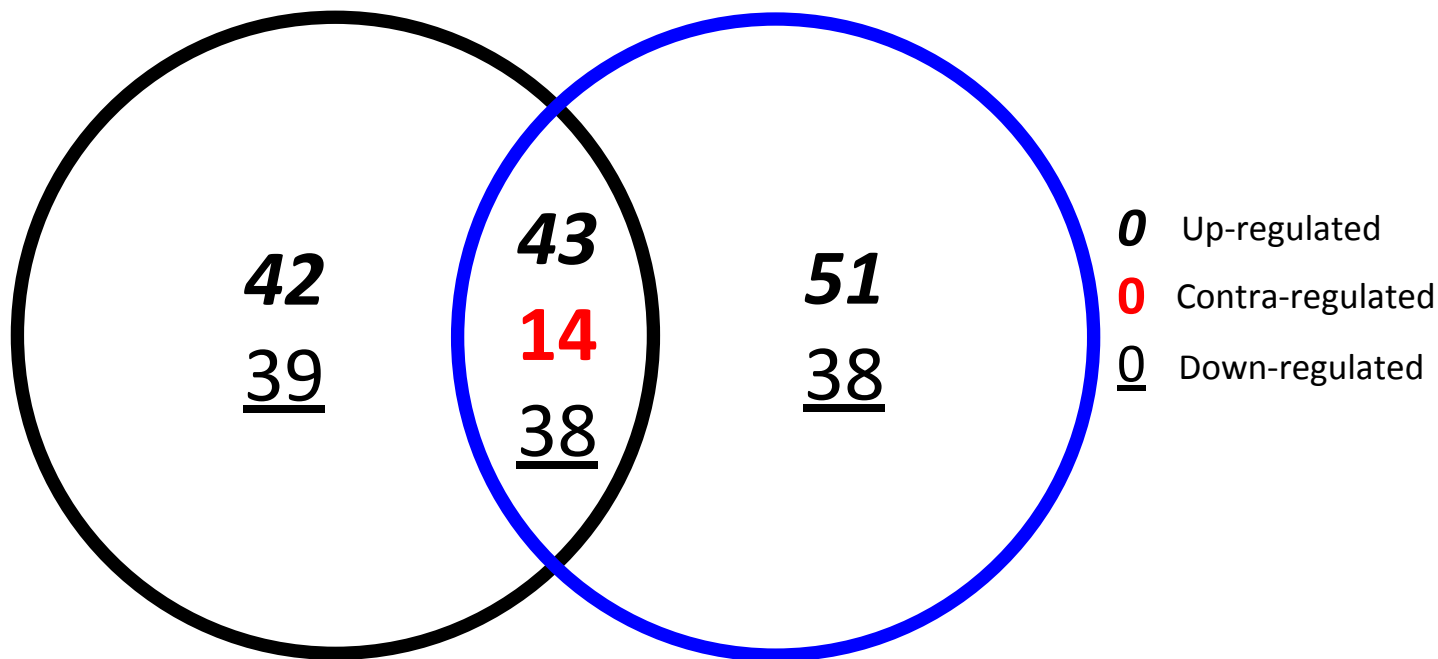


vs.



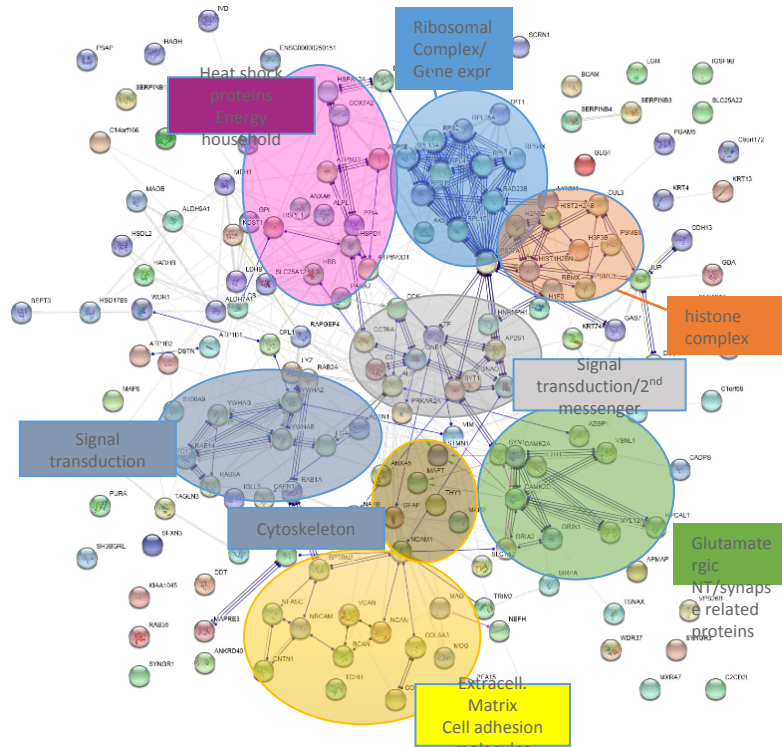
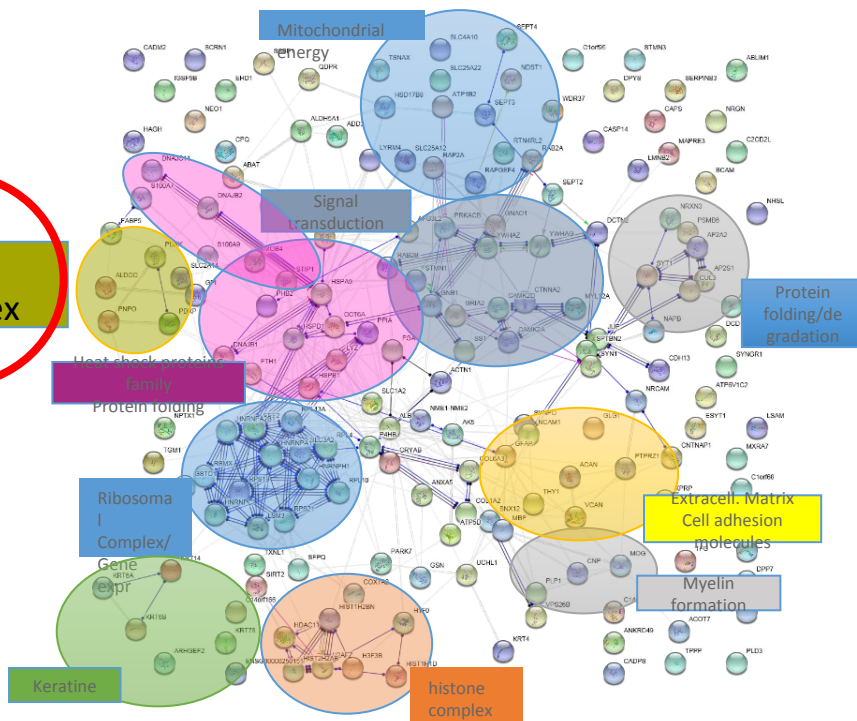
Eiwitanalyse







Vit B6 complex

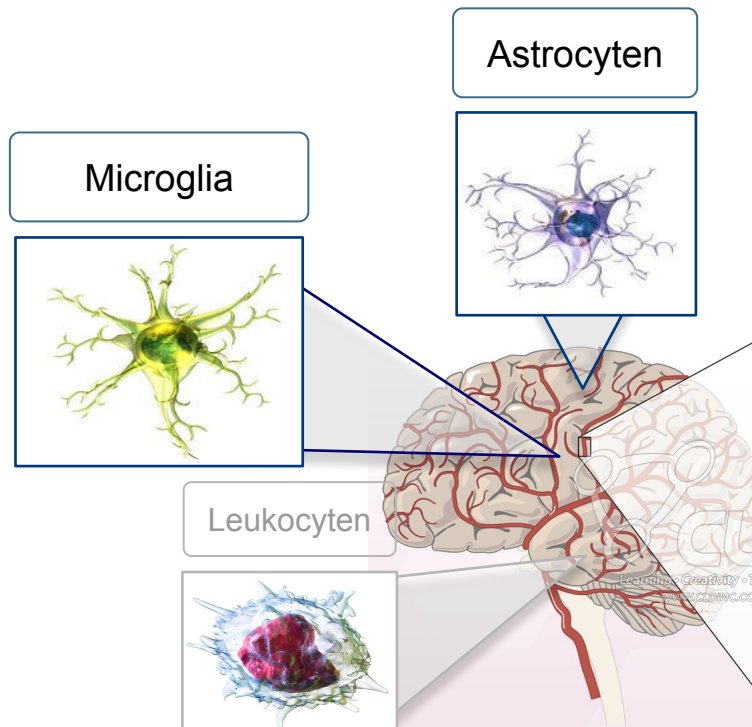




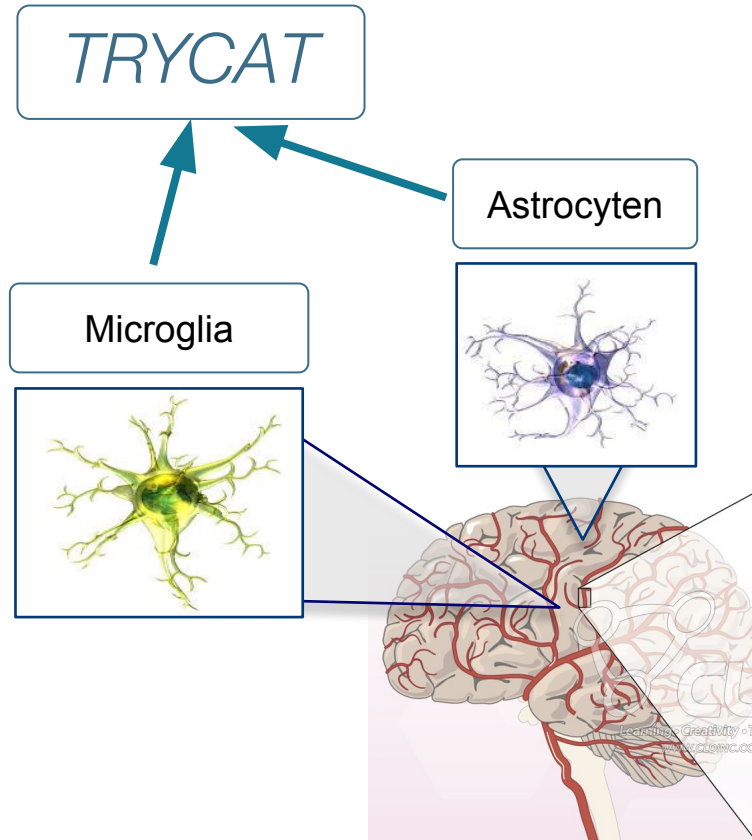
Vit B6
complex



Neuroinflammatie!

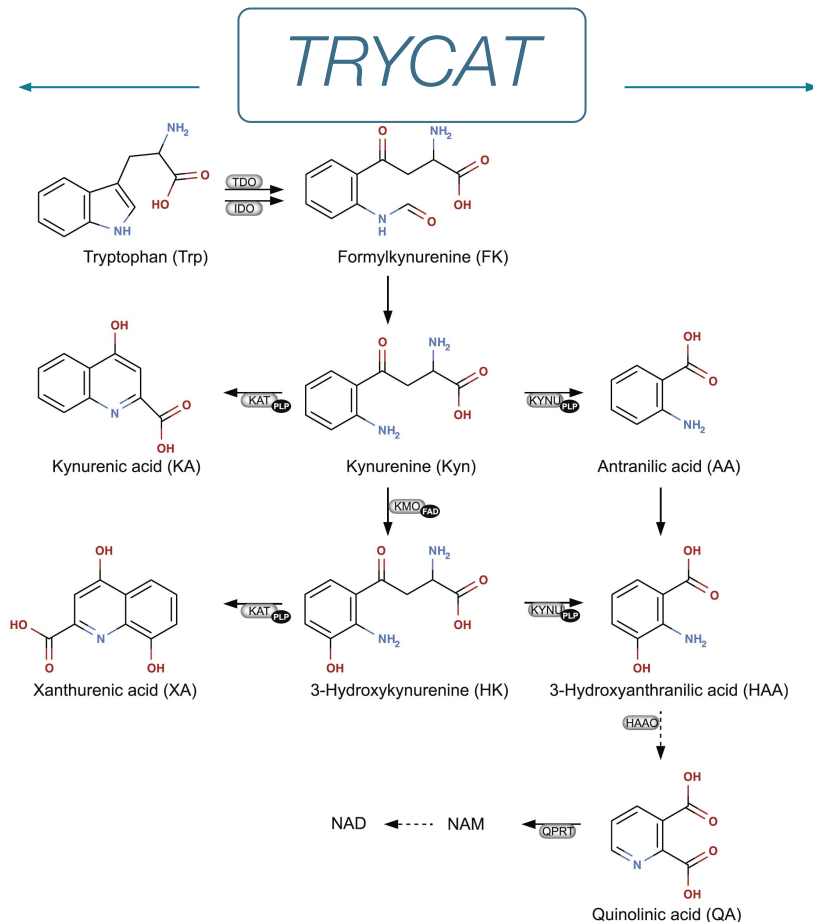


Immuunsysteem van de hersenen

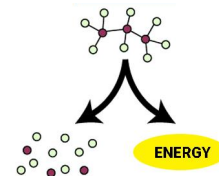


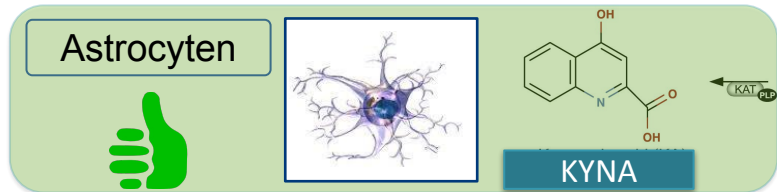
Immuunsysteem van de hersenen

Tryptofaan
Essentieel aminozuur

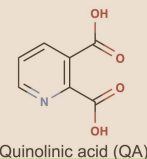
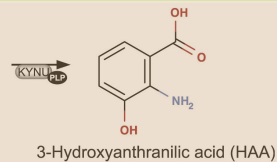
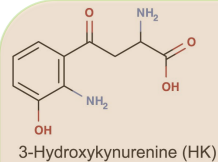
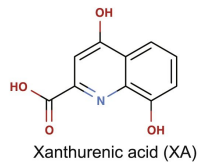
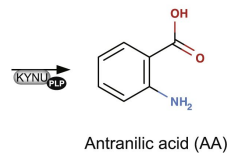
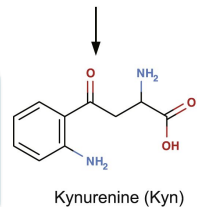
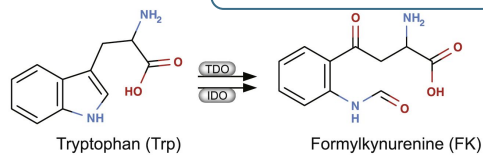


Katabolisatie

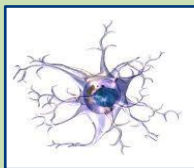




TRYCAT



Astrocyten



Kynurenic acid (KA)

Kynurenine (Kyn)

Antranilic acid (AA)

Xanthurenic acid (XA)

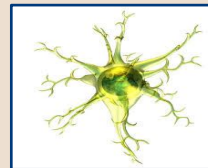
3-Hydroxykynurenine (HK)

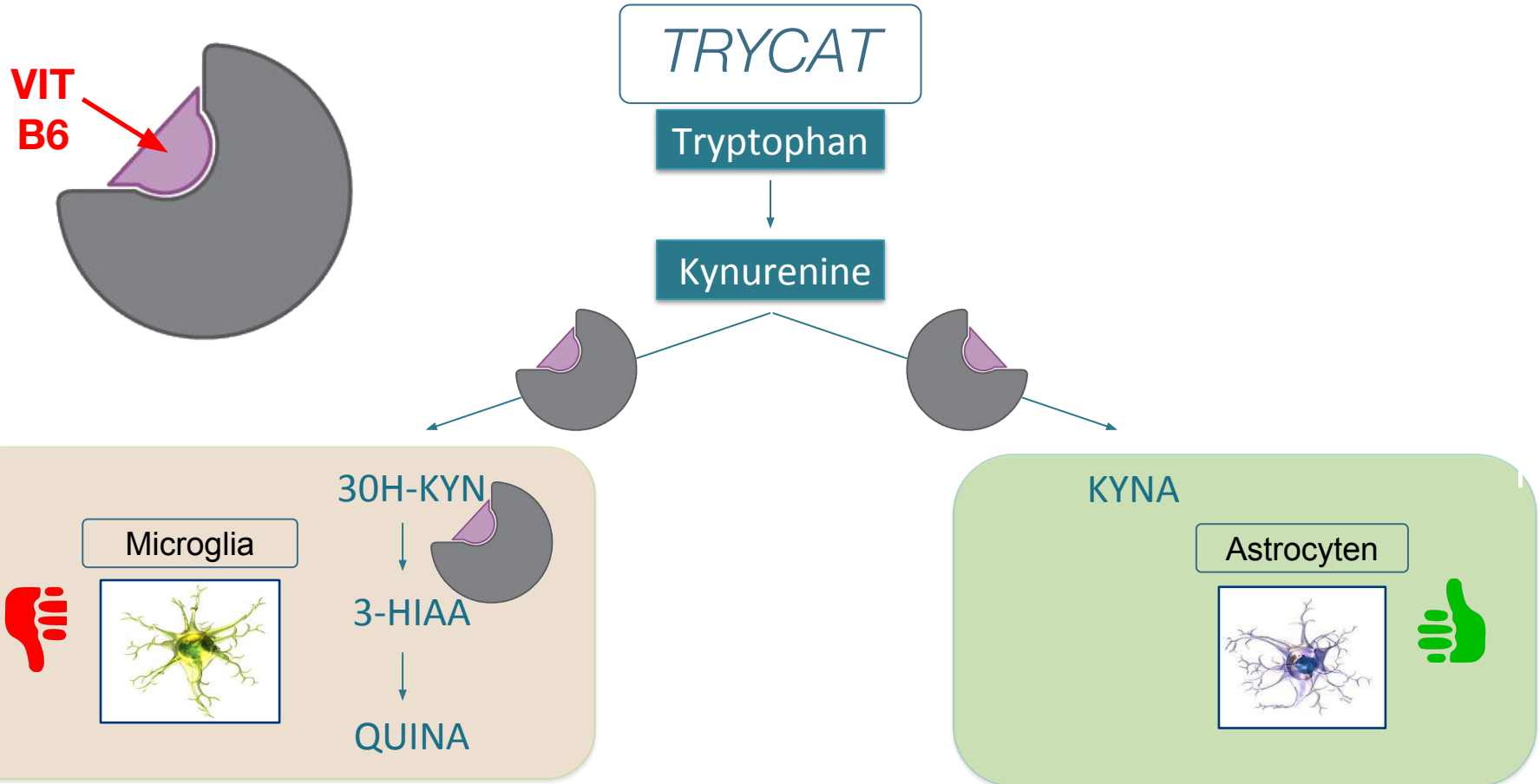
3-Hydroxyanthranilic acid (HAA)

NAD ← NAM

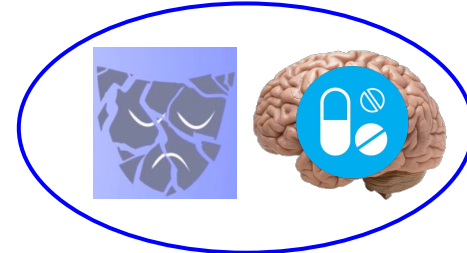
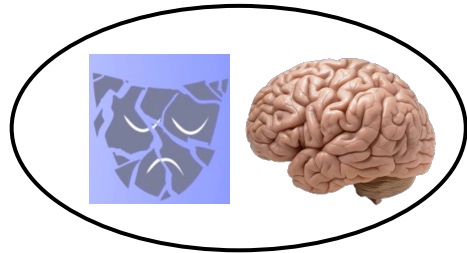
Quinolinic acid (QA)

Microglia

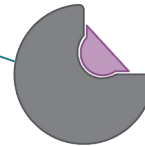
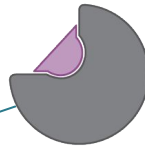




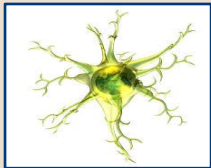
TRYCAT



Kynurenine



Microglia



30H-KYN

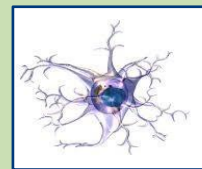
3-HIAA

QUINA



KYNA

Astrocyten



We onthouden...

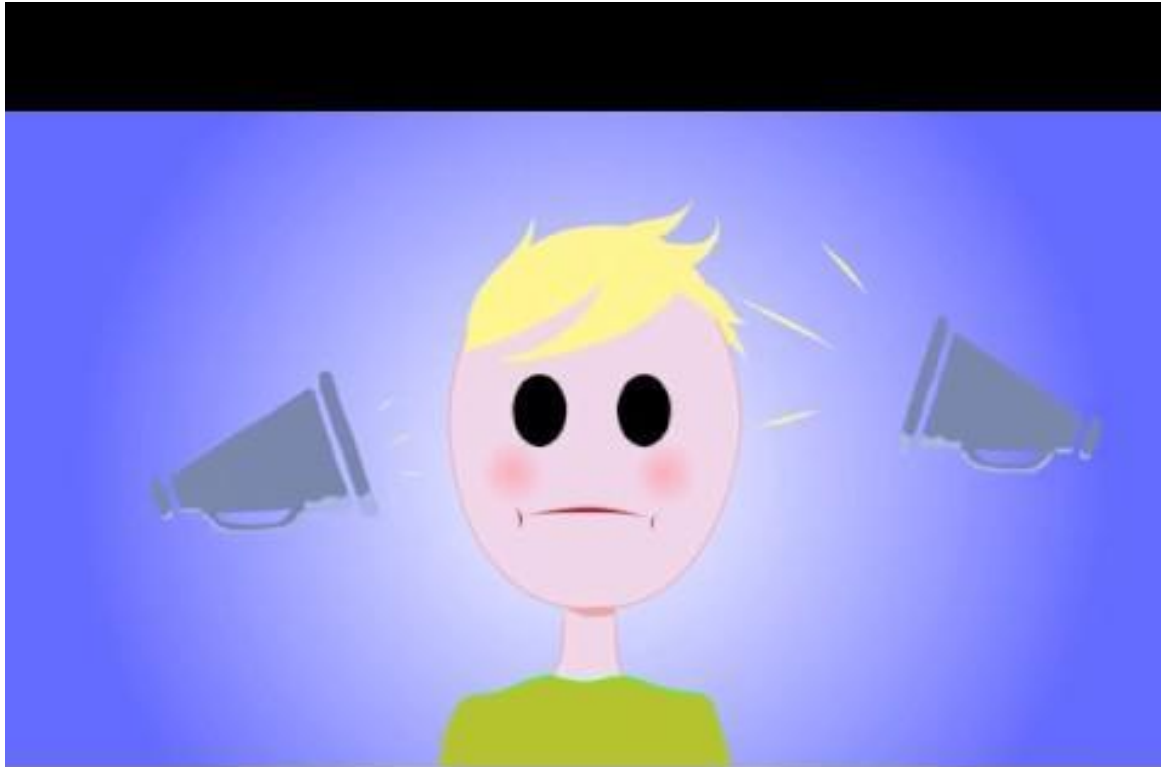
- Vitamine B6 eiwitten zijn een cruciaal onderdeel van de eiwit-huishouding van microglia
- Vitamine B6 eiwitten zijn afwijkend in patiënten met schizofrenie die geen behandeling kregen



Lopende projecten

The background of the slide features a photograph of a modern, multi-story building with a grid-like facade of large windows. A bare tree stands in the foreground on the right side. The entire image is overlaid with a semi-transparent teal-to-green gradient that fades from left to right, creating a clean and professional aesthetic.

Eiwitanalyse van witte-bloedcellen als diagnostische tool voor psychiatrische aandoeningen. “PBMC-studie”



Een nieuw medicijn voor slaapproblemen? “De insomniastudie”

Onderzoek naar slapeloosheid

Heeft u moeite met inslapen?
Wordt u vaak / vroeg wakker 's nachts?

Doel?

Onderzoek naar de effectiviteit van een nieuw medicijn voor slaapproblemen

Voor wie?

- U slaapt moeilijk in of
- U slaapt moeilijk door of
- U wordt vroeg wakker
- En dit minstens 3 nachten per week

Bekijk de checklist achteraan!

18-85 jaar

Aanbod?

Max. vergoeding: € 1300

Praktisch?

Fase 1: komt u in aanmerking?

→ bloedafname, vragenlijsten, 2 overnachtingen in het slaaplabo

Fase 2: studiedeelname

→ bloedafname, vragenlijsten, 4 overnachtingen in het slaaplabo, toediening van studiemedicatie

4 - 6 weken

Komt u in aanmerking?

Criteria	Ja	Nee
1. Heeft u minstens 3 nachten per week moeite met inslapen of doorslapen of vroeg wakker worden?		
2. Bent u tussen 18 en 85 jaar?		
3. Zijn deze klachten al langer dan 3 maand aanwezig en blijven deze aanhouden ondanks voldoende kansen om bij te slapen?		
4. Rookt u meer dan 10 sigaretten per dag?		
5. Drinkt u meer dan 5 kopjes koffie per dag?		

5 x ?

Contacteer ons!

info@sinapsduffel.com

015/304034

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Psychiatrisch Ziekenhuis Duffel
SINAPS Wetenschappelijk Onderzoek
Rooienberg 21, 2570 Duffel



WE WANT YOU!



SINAPS



Psychiatrisch
Ziekenhuis
Duffel

UNIVERSITAIRE DIENST

IN ASSOCIATIE MET UZA



Universiteit
Antwerpen



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