Sciences de la Vie

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WEBINAIRE

Le partenaire incontournable de **vos innovations**

Proche de chez vous

AMYLGEN : Your partner for the discovery of new drug candidates for the treatment of CNS diseases

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Activity

As a preclinical CRO, Amylgen proposes rodent models of neurodegenerative and psychiatric diseases allowing the rapid testing of new drugs with validated predictive value.

Furthermore, Amylgen evaluates nutraceutical products aiming the field of "brain health" or "healthy brain ageing".

Amylgen

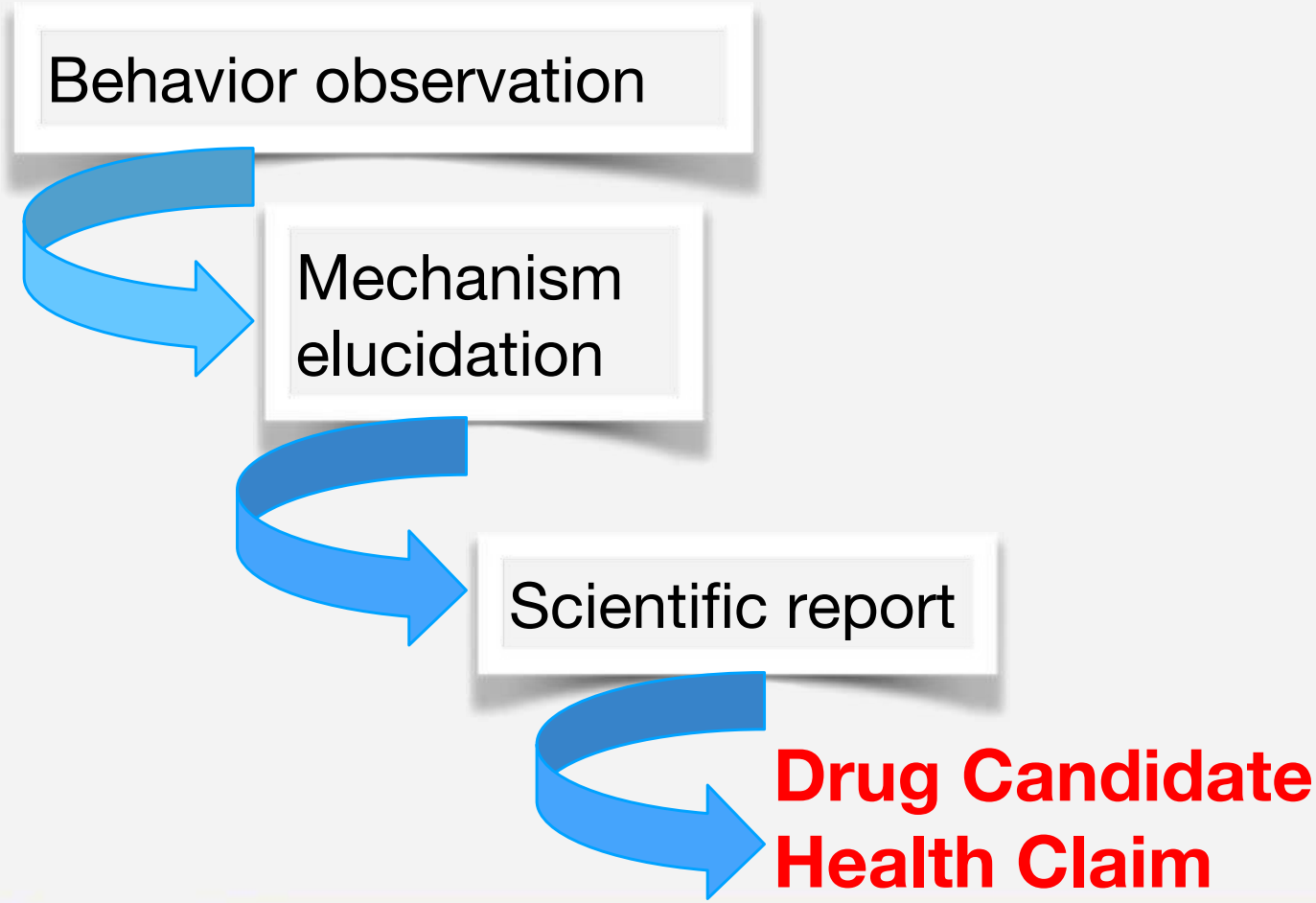
- Amylgen was created in 2009 as a spin off of the University of Montpellier
- In 2014, Amylgen moved to its own A1 certified housing animal facility
- Facilities include an extensive platform of behavioral analyses and fully equipped biochemistry and IHC laboratory for *in vitro* and *ex vivo* experiments

Amylgen' preclinical offer

Amylgen is at your service to provide quick POC

of the efficacy of your product in improving **brain health**

Amylgen's preclinical offer



Areas of interest

- Brain ageing preservation
- Memory enhancement
- Brain development
- Antidepressant/antianxiety effect
- Protection against neurodegenerative diseases

Animal models

Neurodegenerative diseases

Alzheimer's disease:
Central injection of $A\beta_{25-35}$ peptide
Sporadic pathology (SAM)

Parkinson's disease:
6-hydroxydopamine (6-OHDA)
α-synuclein overexpression

Amyotrophic Lateral Sclerosis:
*SOD1*G93A mouse model*

Huntington's Disease:
R6/2 mouse model

Mood and psychiatric disorders

Depression, Anxiety

Chronic restraint stress

Schizophrenia:
MK801-induced hyperactivity
D-amphetamine-induced hyperactivity
Phencyclidine-induced hyperactivity

Sleep deprivation

Cognitive & Memory deficit

MK-801-induced cognitive deficit
Scopolamine-induced amnesia
Phencyclidine-induced amnesia

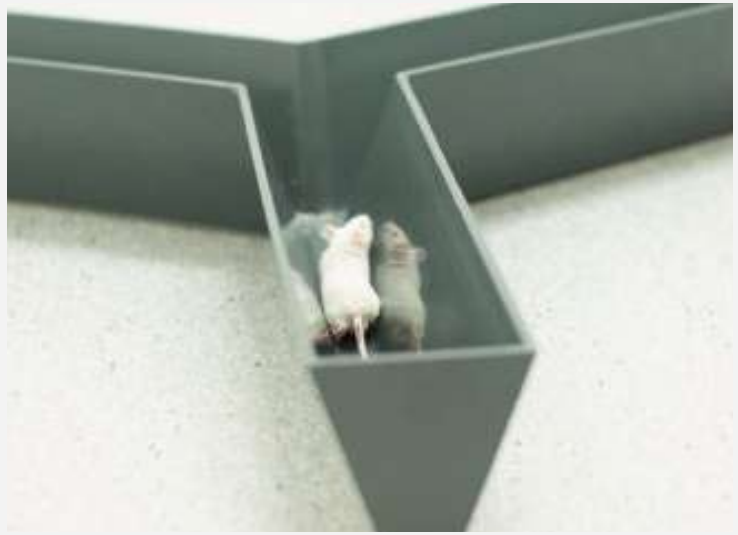
Attention deficit Hyperactivity disorders

Scopolamine-induced attention deficit

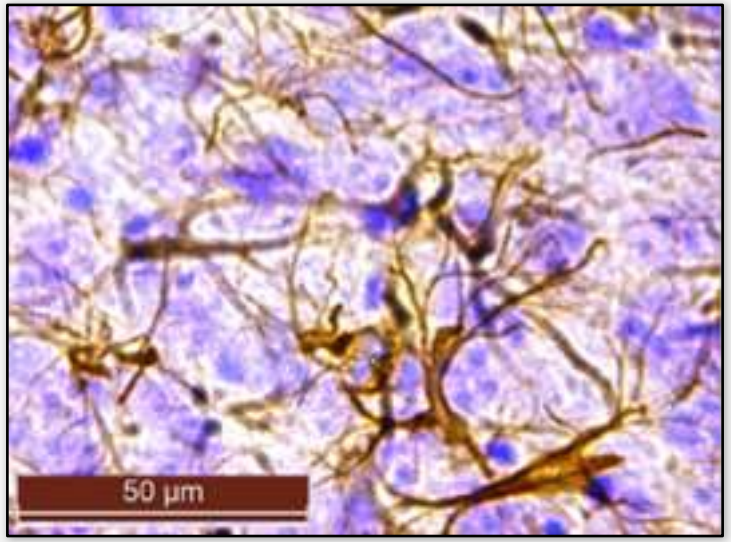
Brain development or ageing

Senescence Accelerated Mice (SAM)
D-galactose (D-Gal) intoxication model
Normal young or Aged animals

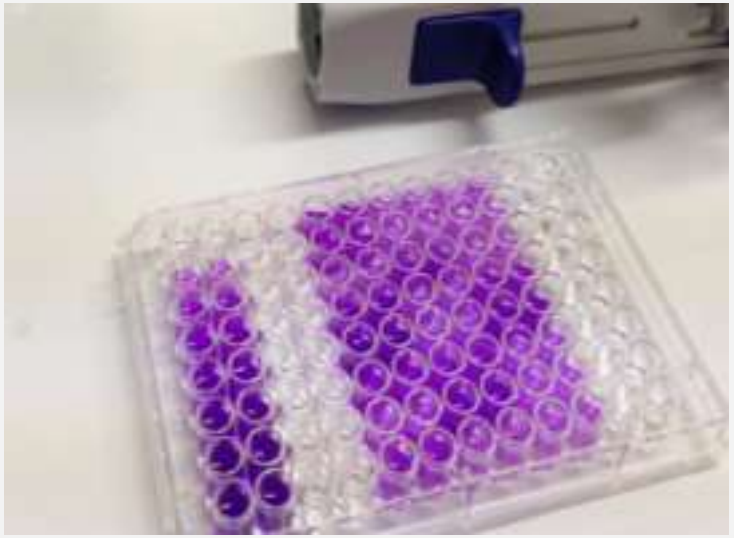
Fully integrated services



Behavorial analyses



Histology & Immunohistochemistry analyses

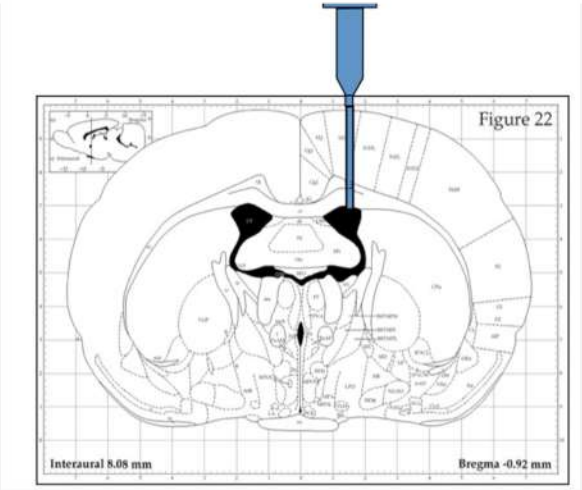


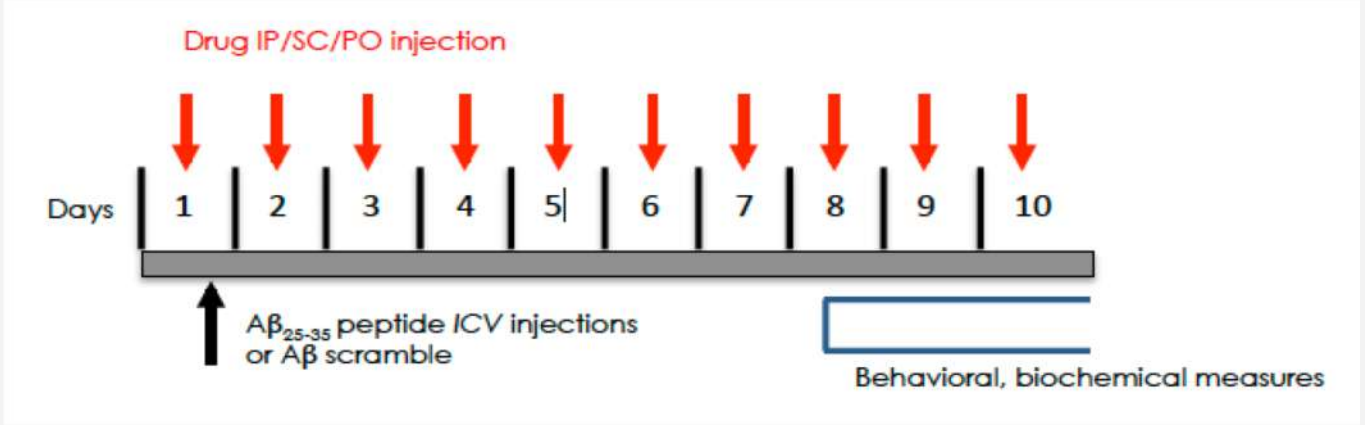
Molecular & Biochemical analyses

Multiple tests matched to type of memory

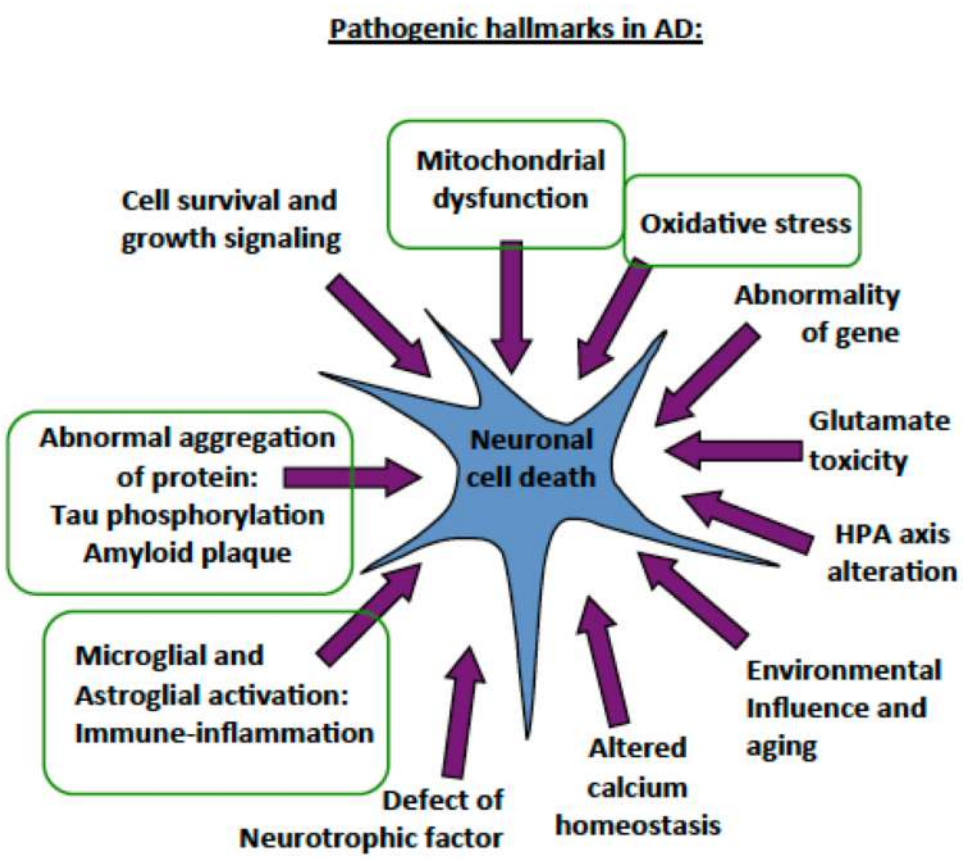
Working memory	*Spontaneous alternation*
Short term memory	*Passive avoidance*
Long term memory	*Place learning in the water-maze*
Spatial and contextual processes	*Three panel runway task*
Positively or negatively reinforced	*Novel object recognition*
Recognition memory	*Water-maze active avoidance*
Episodic memory	*Fear conditioning*

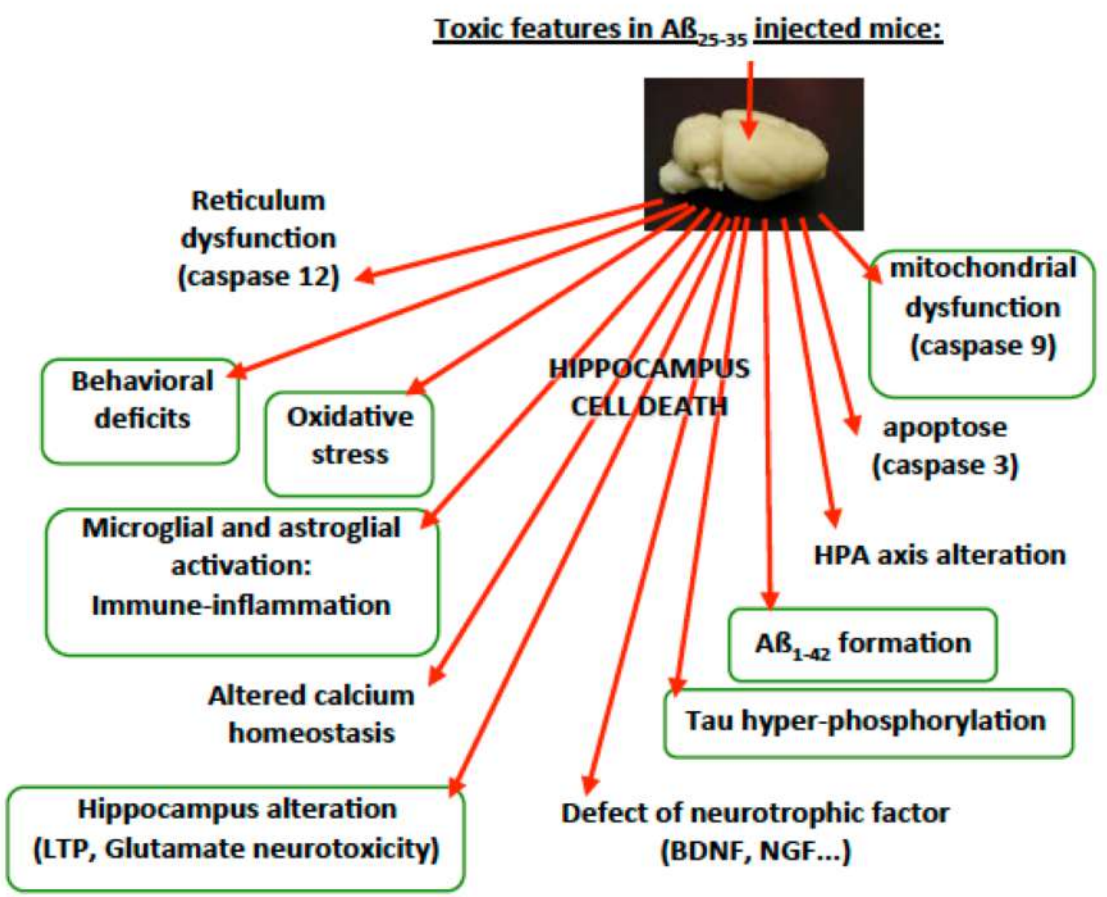
Alzheimer's disease model





Alzheimer's disease model





Senescence Accelerated Mice (SAM) model

SAMP/8 show cognitive and physiological hallmarks of ageing at 12 months of age whereas SAMR/1 control line age normally (24-30 months).

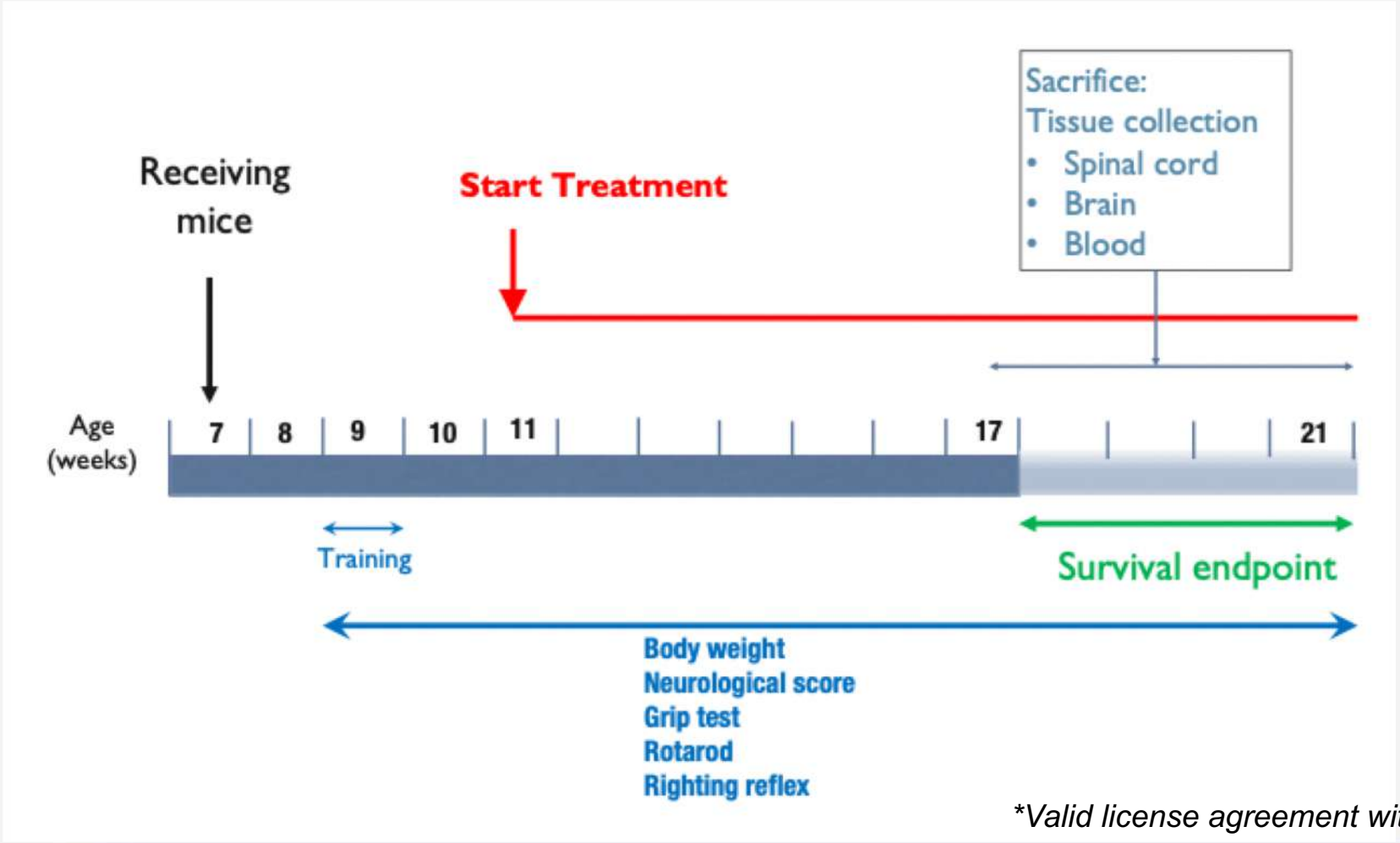
Maurice, Roman et al., Brain Res., 1996

SAM develop a sporadic form of Alzheimer's disease

Besides important deficits in memory, at 8 months of age, SAM display:

- Anxiety
- Increase of various markers of
  - Oxidative stress (LPO)
  - Vascular inflammation (VCAM1)
  - Apoptosis (caspase 3, caspase 12)
  - AD markers: $A\beta_{1-42}$ and hyperphosphorylated Tau protein

Amyotrophic Lateral Sclerosis: SOD1*G93A mice



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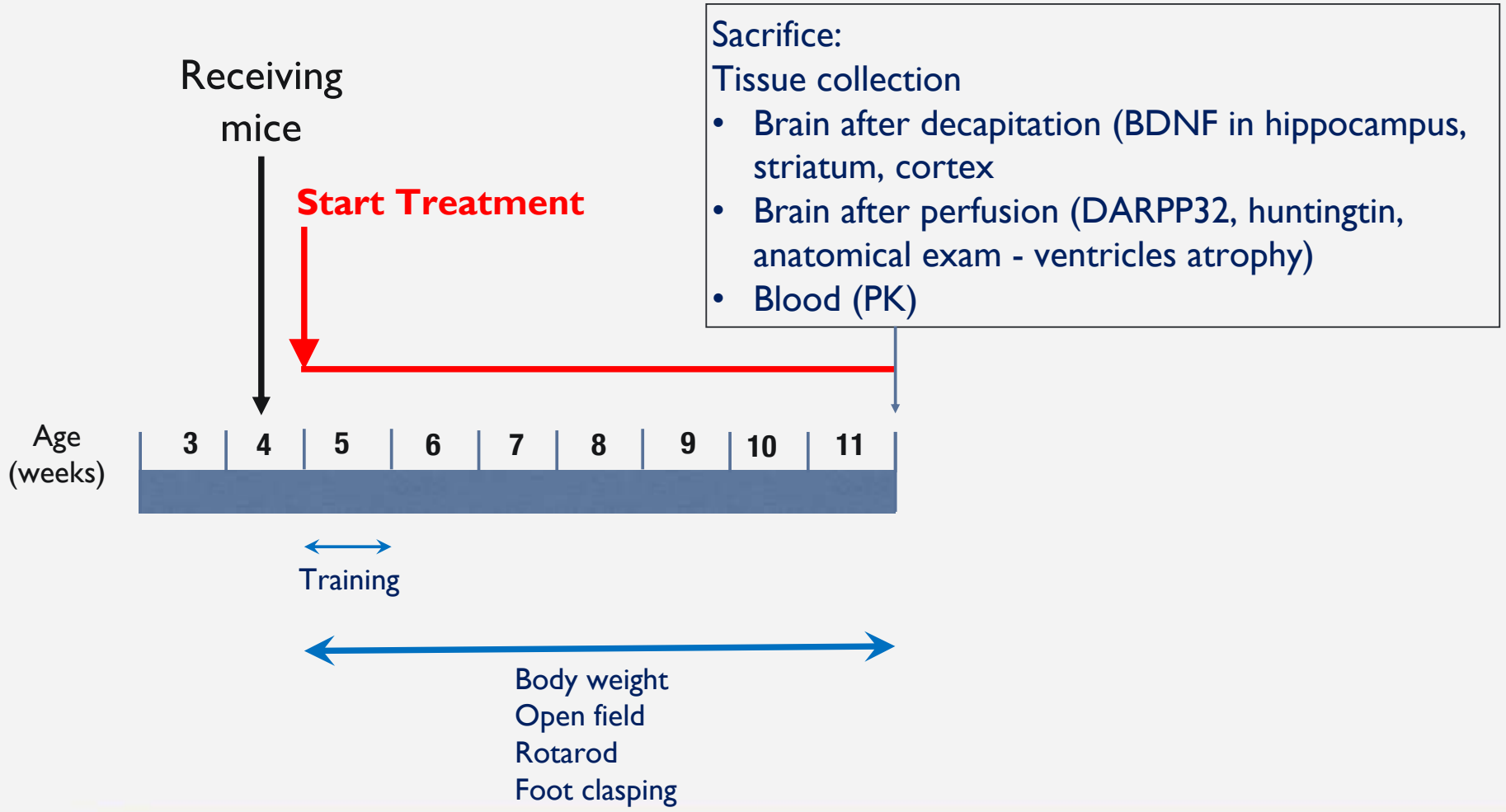
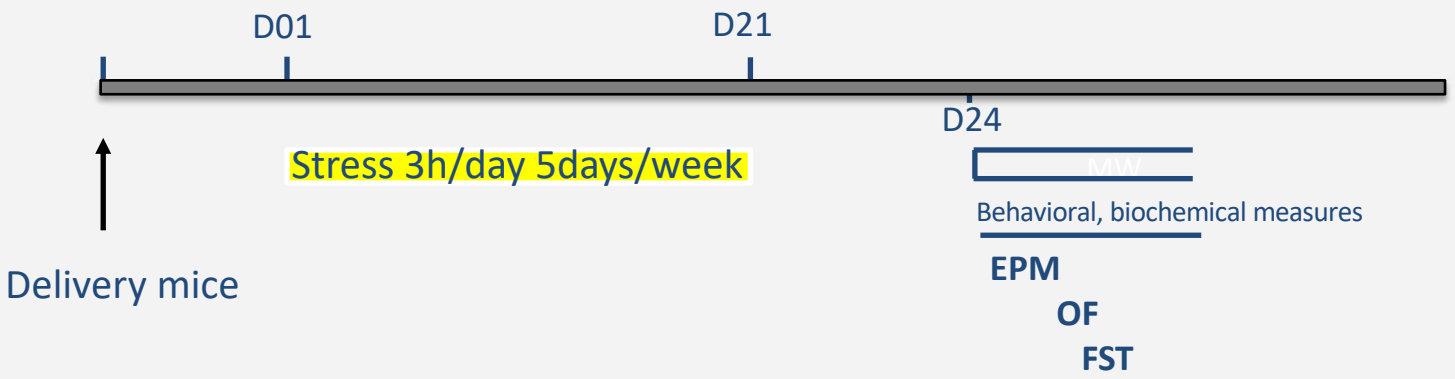
Huntington's Disease: R6/2 mice

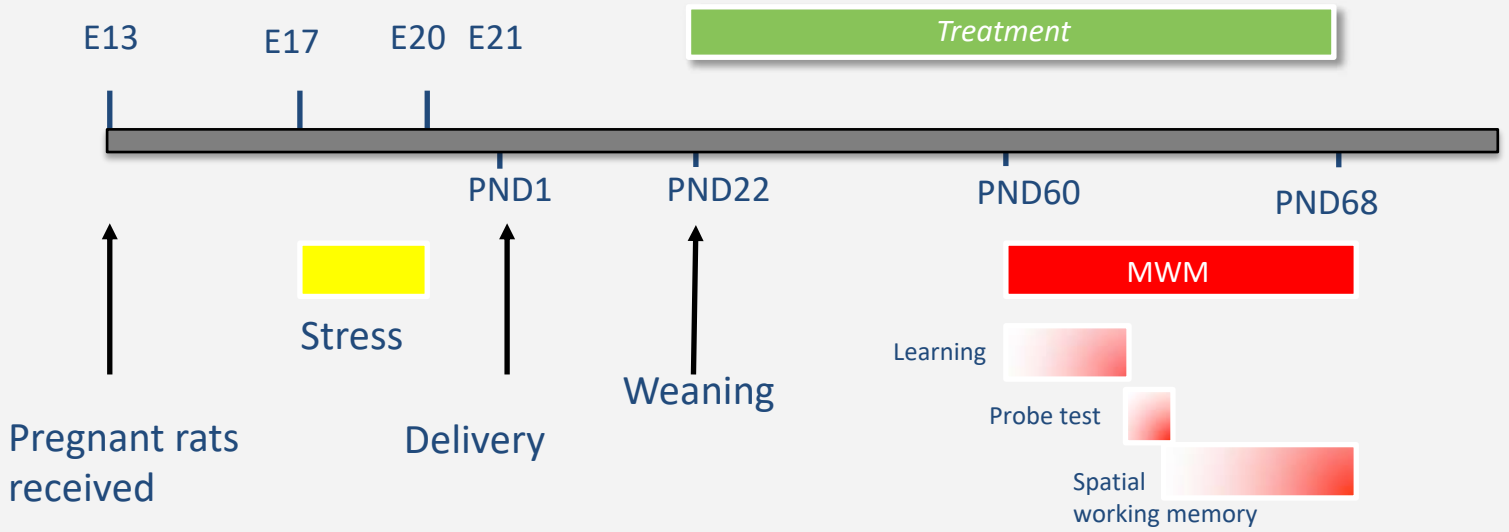


Chronic restraint stress-induced depression

(Espallergues et al., Psychoneuroendocri 2009)

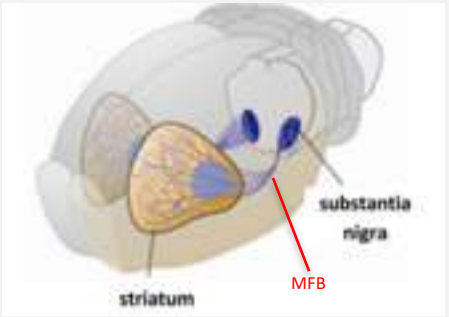


Prenatal stress (PS): learning deficits in young rats



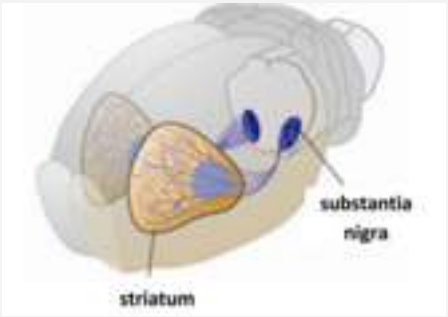
Parkinson's Disease: 6-hydroxydopamine (6-OHDA)

✓ Unilateral 6-hydroxydopamine (6-OHDA) injections into the medial forebrain bundle (MFB) containing the ascending nigrostriatal fibers



Parkinson's Disease: α-synuclein overexpression

✓ Unilateral AAV infusion into the substantia nigra *pars compacta* (SN*pc*) containing the dopaminergic cells



Amylgen's strengths

Competence: *our strong knowledge in CNS diseases and Drug Discovery comes from University and Industrial background*

Flexibility: *we better adapt the experimental designs for your specific needs*

Rapidity: *our challenge is to enable you to move on quickly to the next stage*

Reliability: *our models have enabled both Anavex Life Science and Pharnext to reach quickly the First-in-Man clinical stage*

Network: *we know how to find the experts for each step of your product development*