



Peptidyss

Marine peptides for stress management



French biotech company and natural marine ingredients provider

Our mission is to improve wellness with natural healthy ingredients,
scientifically proven



Our solutions respond to specific needs of the aging population :

Cognition

Memory boost
Sleeping disorders
Stress management



Mobility

Joint care
Bone health
Muscle recovery



Beauty

Skin beauty
Slimming
Nails and hair



Stress management, a growing concern

The boom of stress/sleep management dietary supplements

- 2019 : + **5%** in France (*Source : IQVIA, December 2019*)
- 1st Semester 2020: + **35%** (*Source: NutraIngredients.com, August 2020*)
- Nearly 6 out of 10 people worldwide reported suffering from stress directly related to Coronavirus.

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The natural health product trend enhance by sanitary context

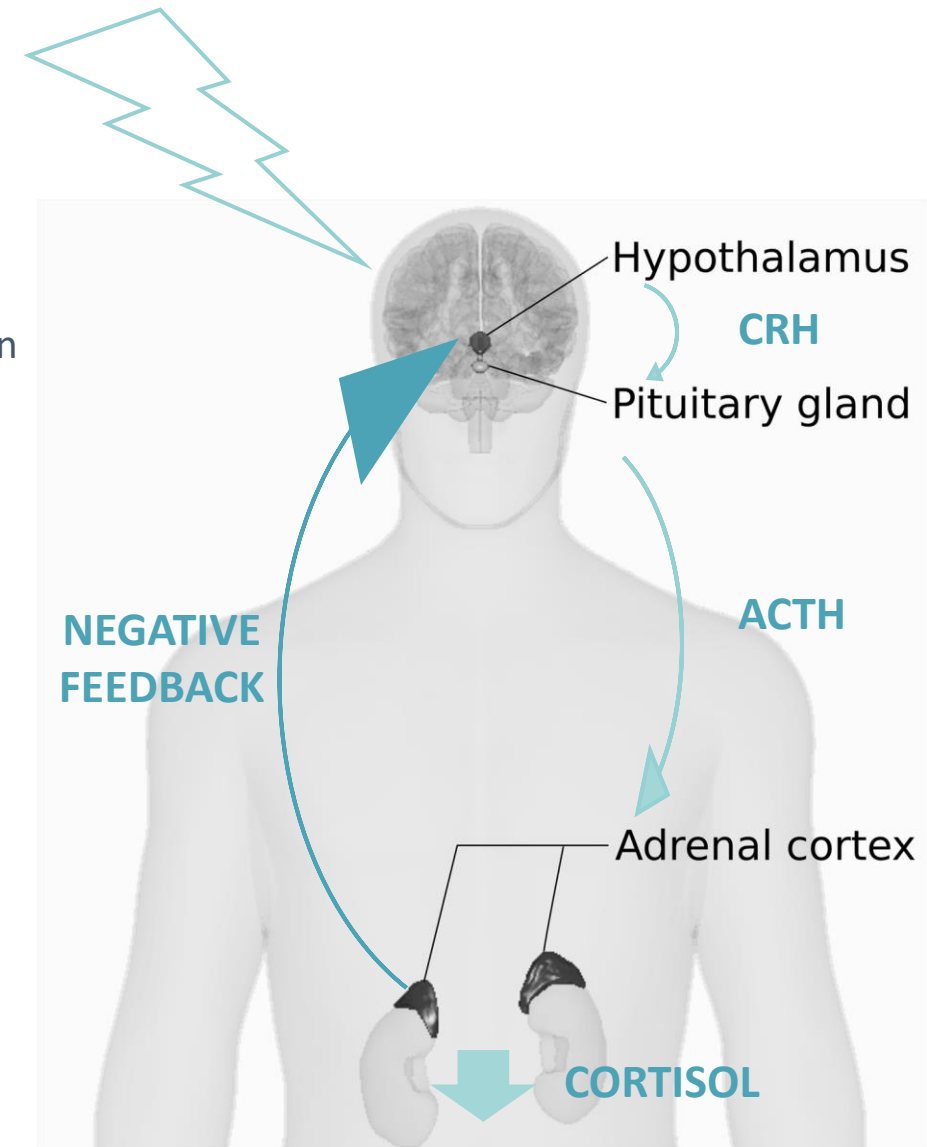
- 62% of French people have paid more attention to their health and their diet since the start of the Covid-19
- A 29% increase in the consumption of food supplements compared to the same period in 2019.

What is stress?

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A natural phenomenon

Our body adapts punctual **situations of pressure** with a natural physiological reaction called **stress response**



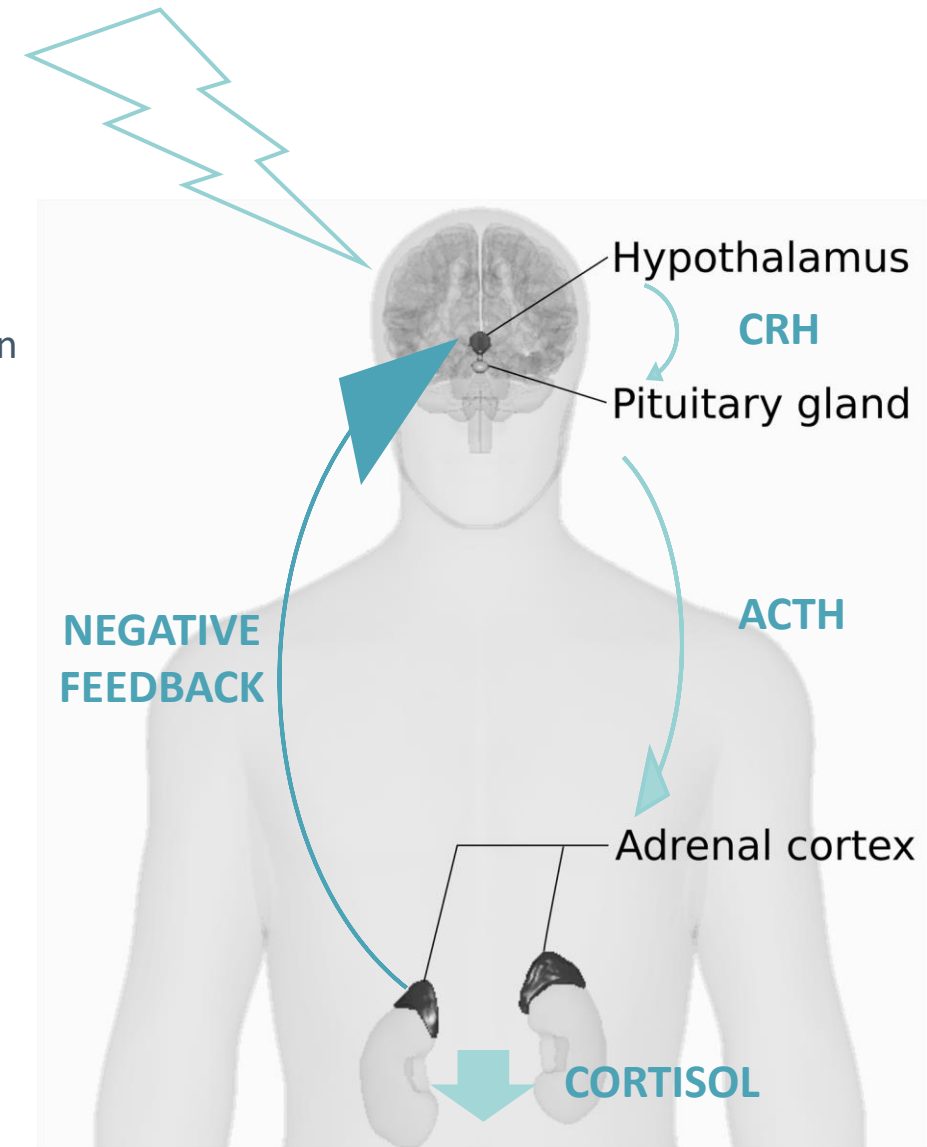
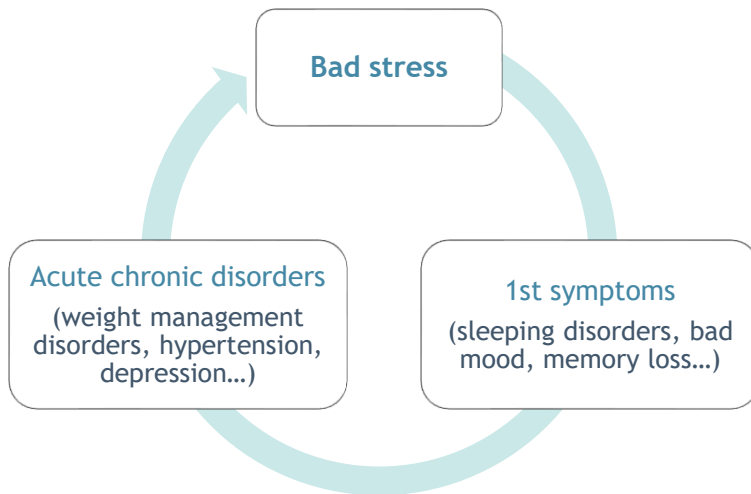
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Good stress vs. bad stress

Positive stress, **punctual** → adrenalin, good energy



Stress management strategies

- **Cognitive behavioral therapy**
- **Relaxation**
 - Not always enough if stress and its symptoms become harmful.

Non-pharmacological approaches



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Non-pharmacological approaches



- **Anxiolytics**
 - Known risks of adverse effects and dependency
 - Generally indicated for more severe situations

Pharmacological treatments



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Pharmacological treatments



- Plants³
- Food hydrolysates with Anxiolytic-like peptides^{4,5}
 - Fewer adverse effects
 - Lower risk of dependency
 - Good bioavailability

Dietary supplements



3 – Sarris J et al., *CNS Drugs*, 2013

4 - Liu & Udenigwe, *J. of Food Biochem.*, 2019

5 - Zamora-Sillero et al., *Marine Biotechnology*, 2018

Peptidyss[®], a natural and sustainable ingredient

- Made from a standardized enzymatic hydrolysis of sardine by-products



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- With an unique composition

Composition	Peptidyss [®] (in %)
Total proteins (N*6,25)	≥ 70
Minerals	≤ 20
Lipids	≤ 2

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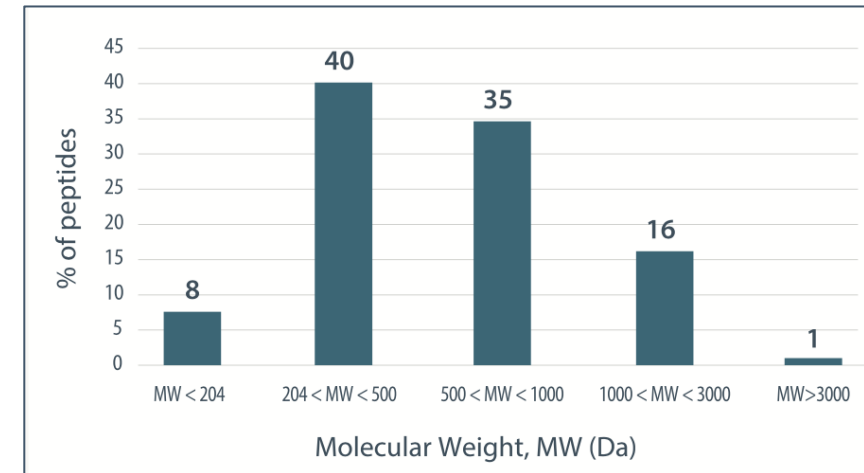


- With an unique composition

Composition	Peptidyss [®] (in %)
Total proteins (N*6,25)	≥ 70
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- Low molecular weight peptides

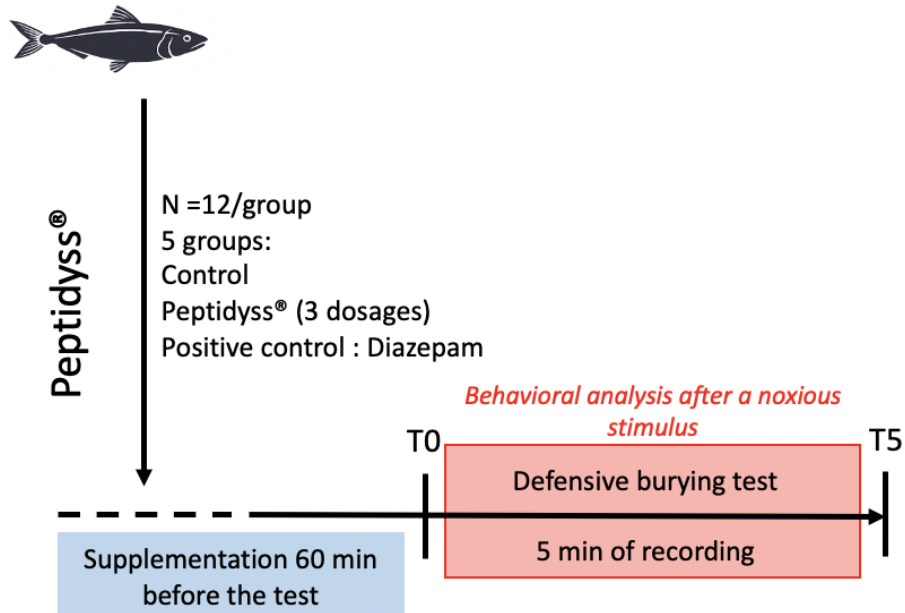
98% of peptides < 3000 Da



- Highly digestible and bioavailable

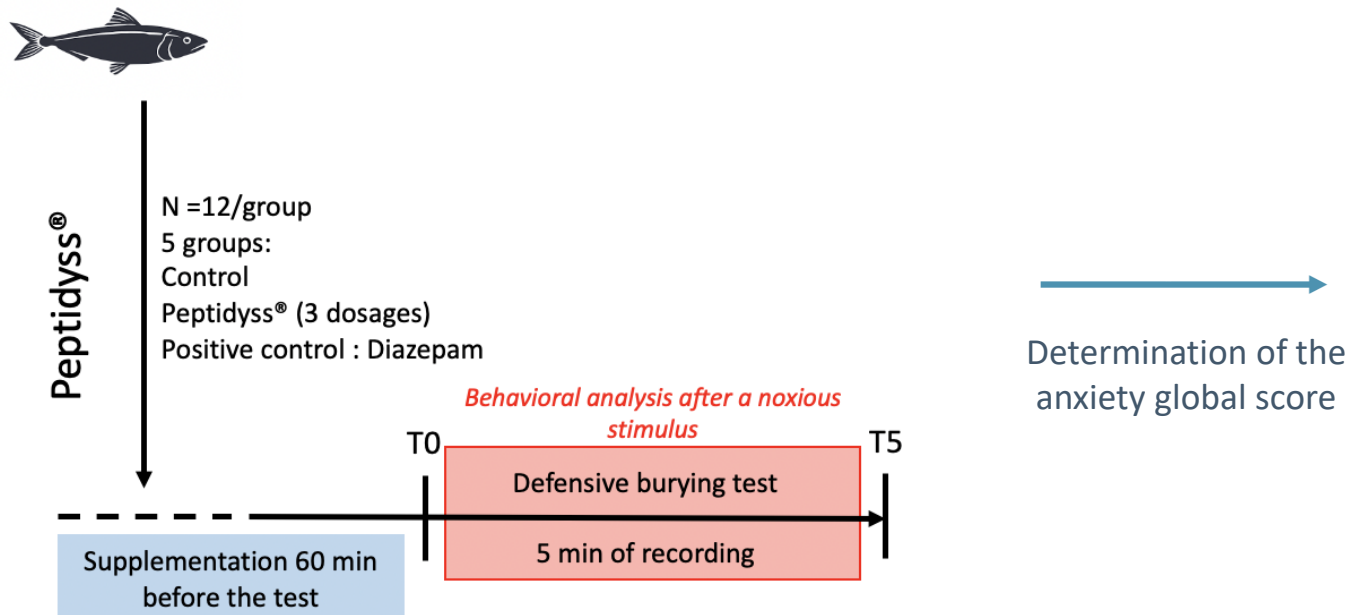
Peptidyss[®], supported by scientific evidences

❖ With anxiolytic-like effect, preclinical study (2002)



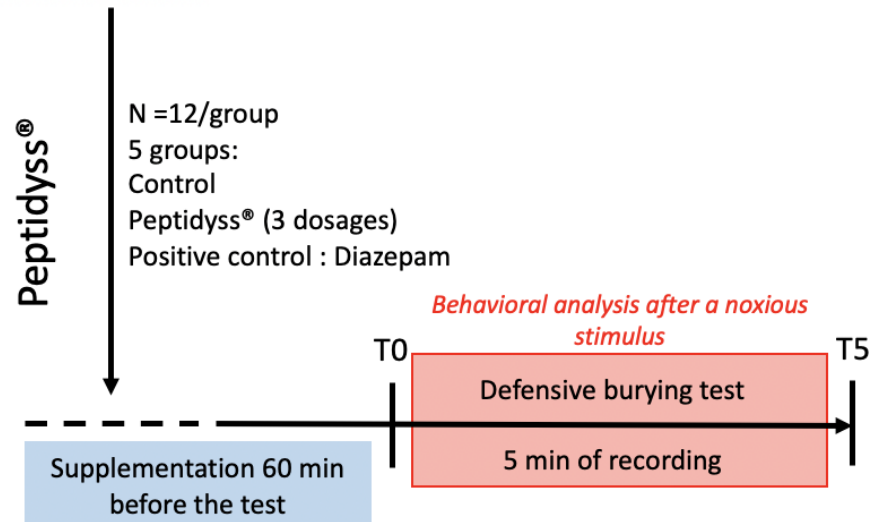
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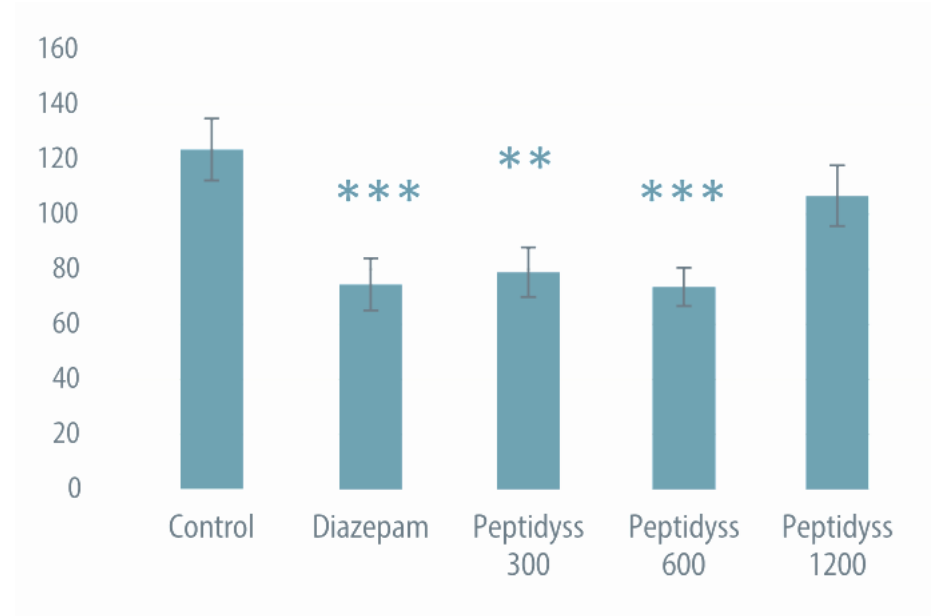
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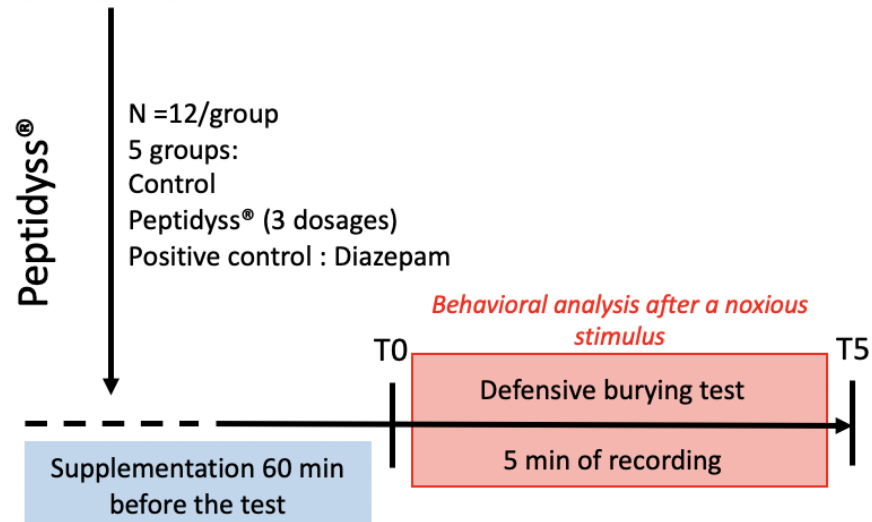
Determination of the anxiety global score

Effect of Peptidyss[®] on the anxiety global score



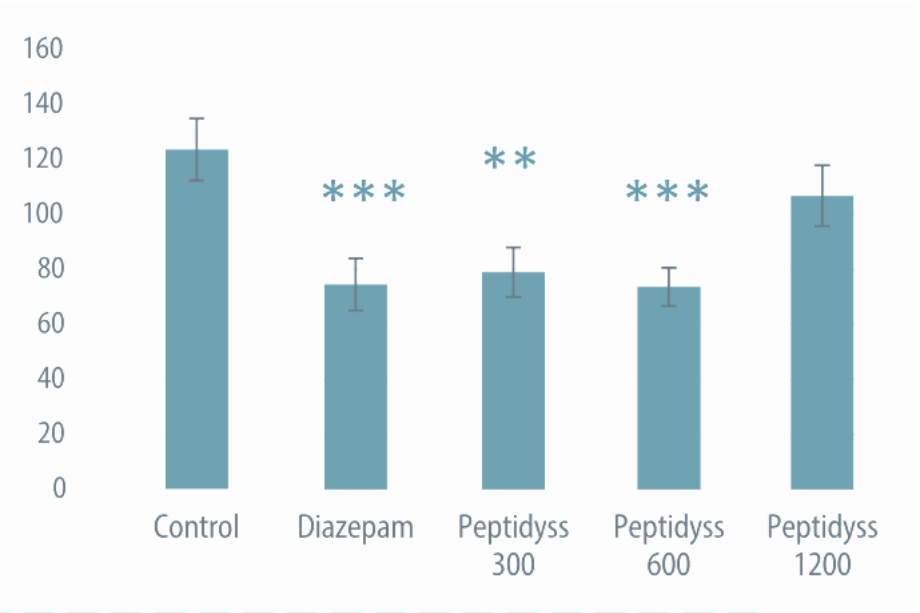
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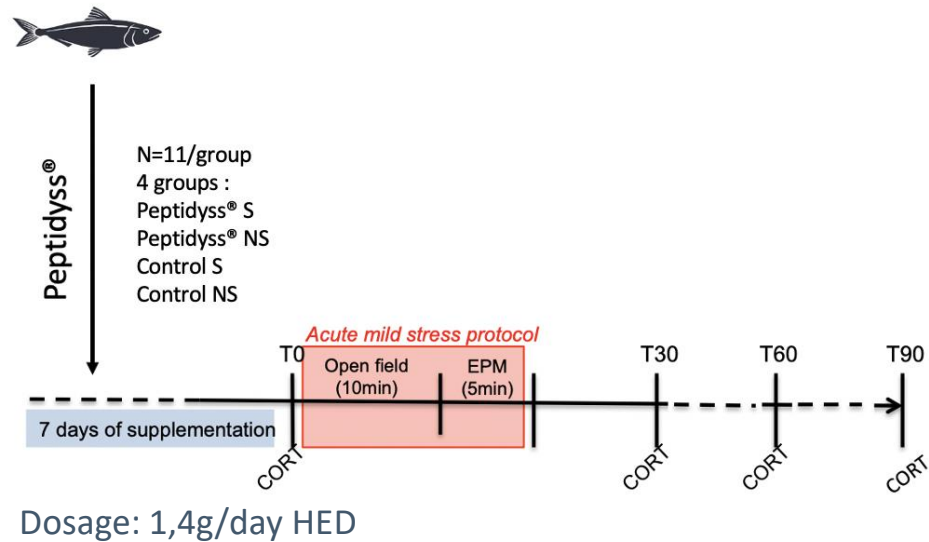
Effect of Peptidyss[®] on the anxiety global score



Significant anti-stress activity of Peptidyss[®] 300/600 mg/kg
Diazepam-like effects of Peptidyss[®] 300/600 mg/kg with no adverse effects

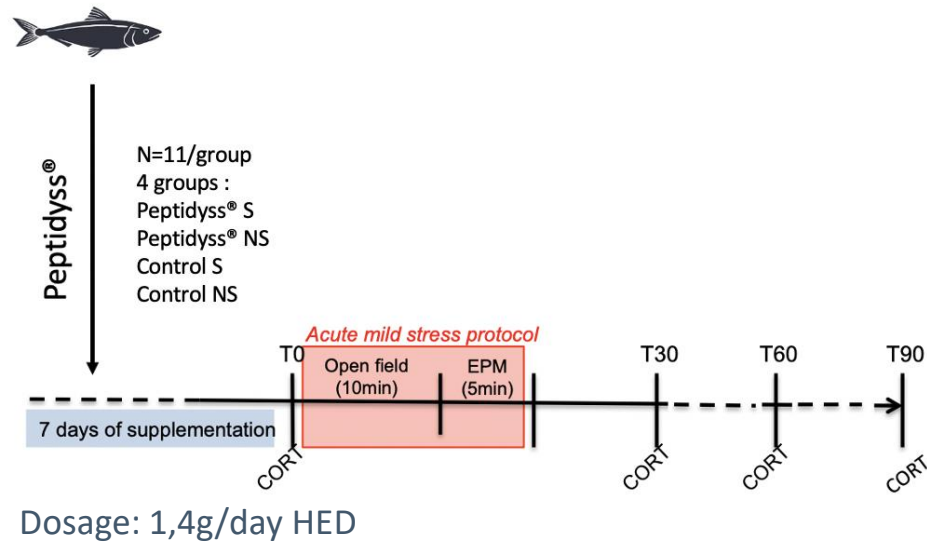
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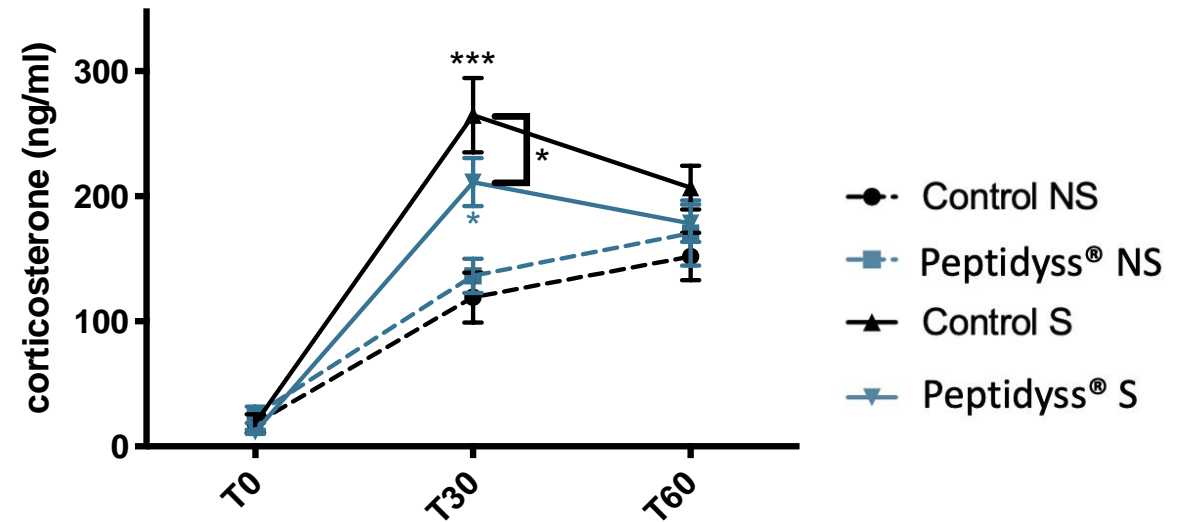


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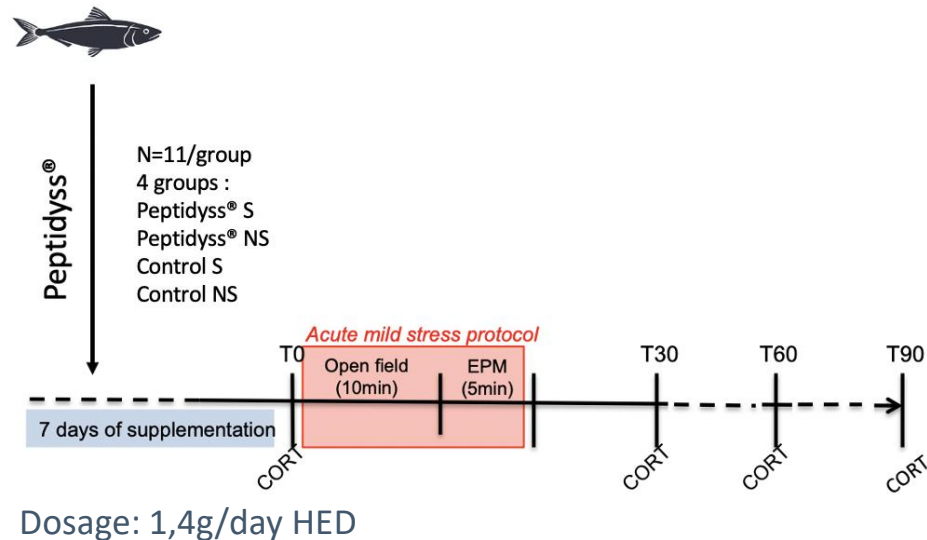


Evaluation of corticosterone secretion after an acute mild stress

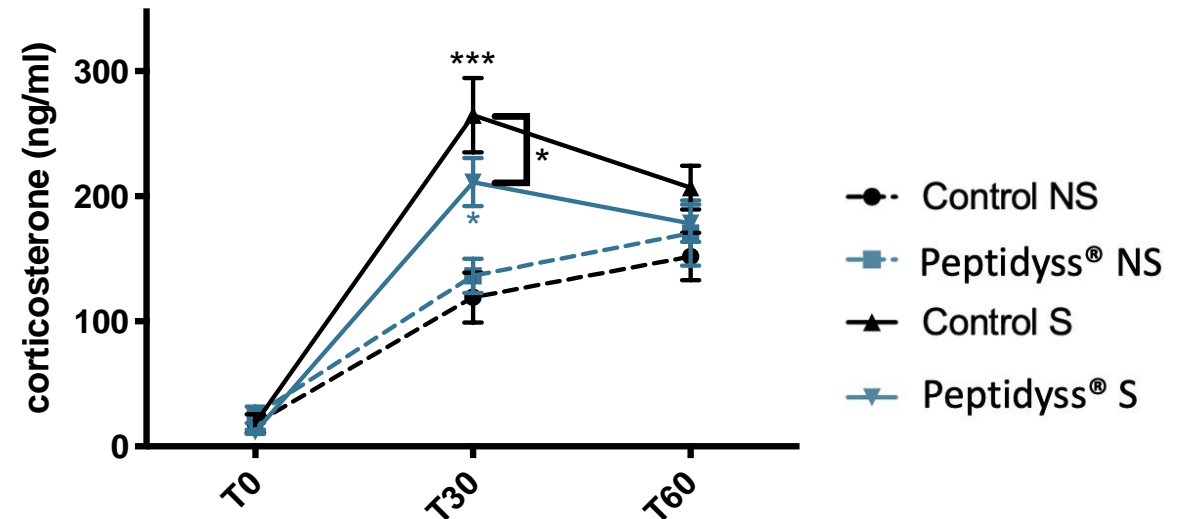


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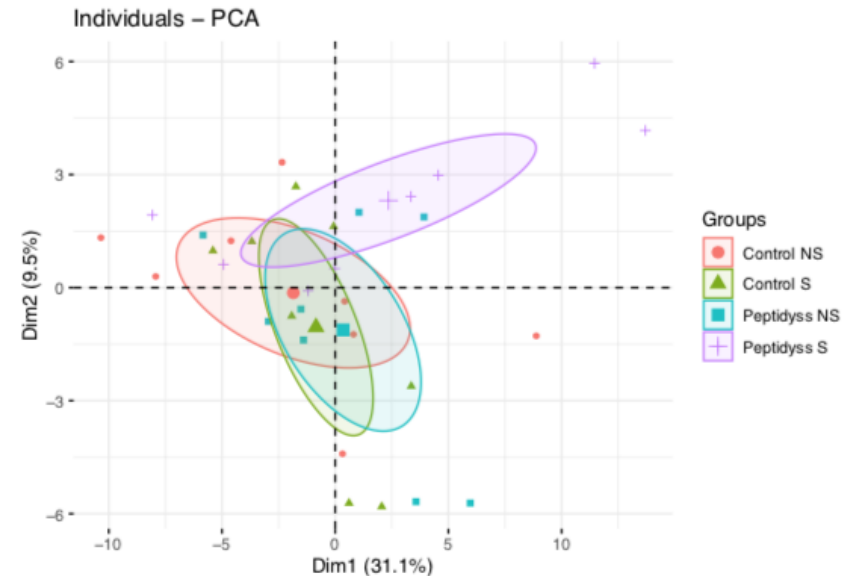
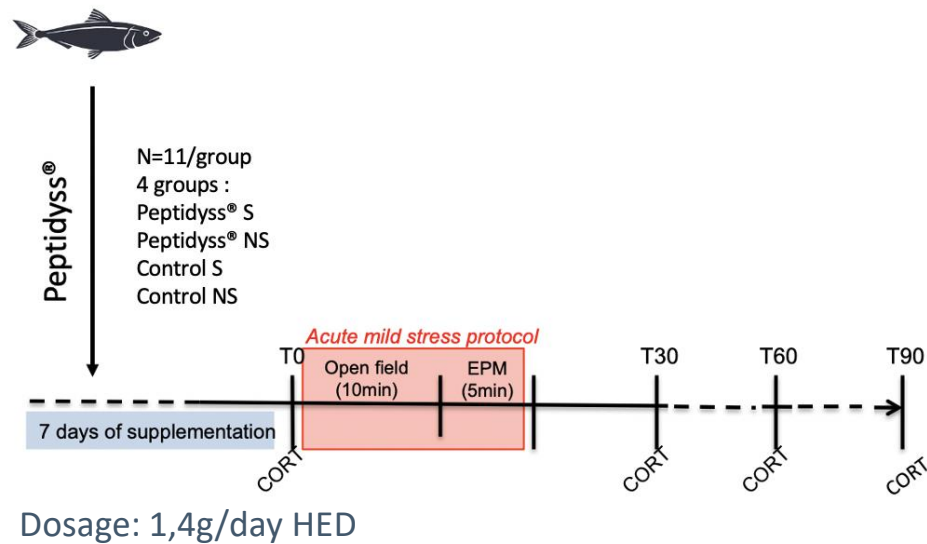
Evaluation of corticosterone secretion after an acute mild stress



Prevention from the deleterious effects induced by a dysregulated corticosterone secretion.

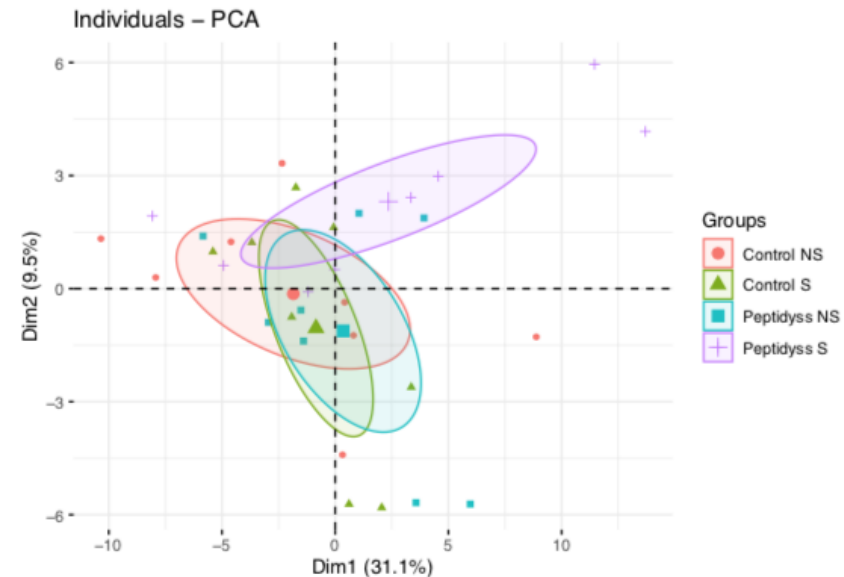
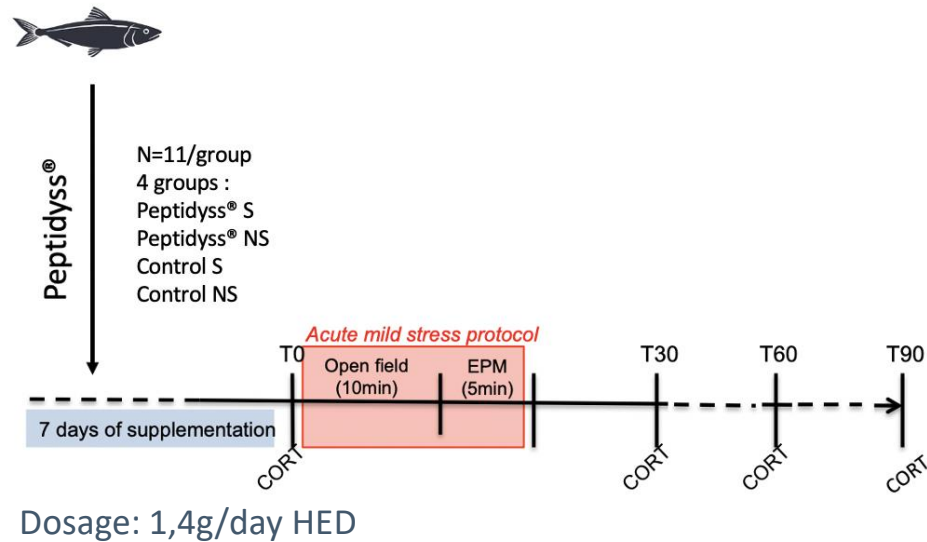
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❖ With modulation of stress-responsive gene expression, preclinical study (2019)



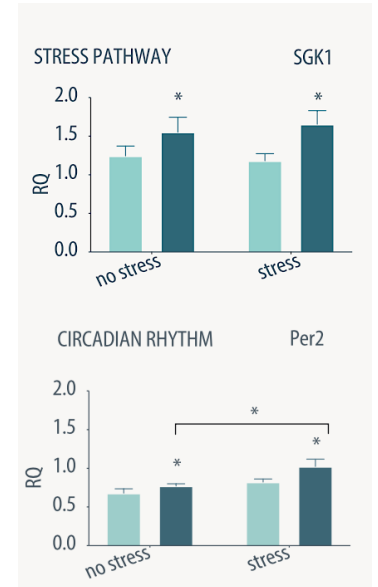
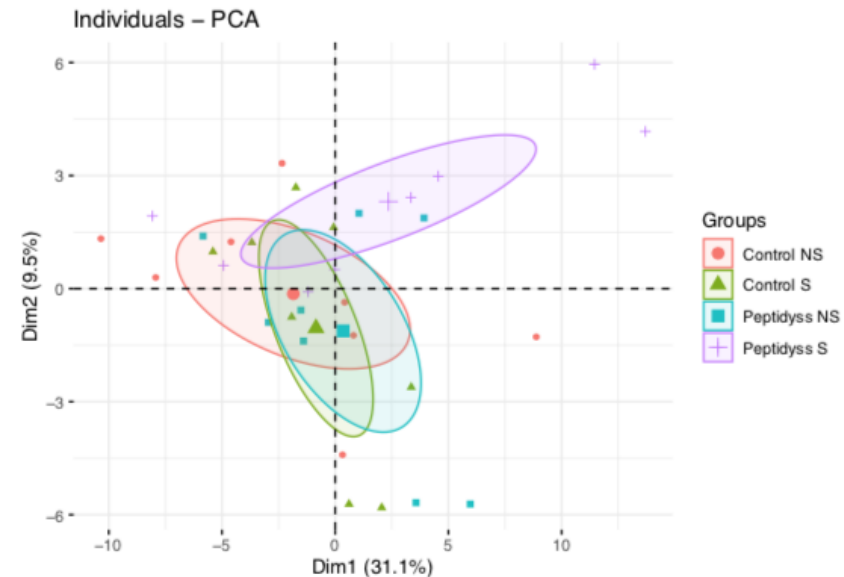
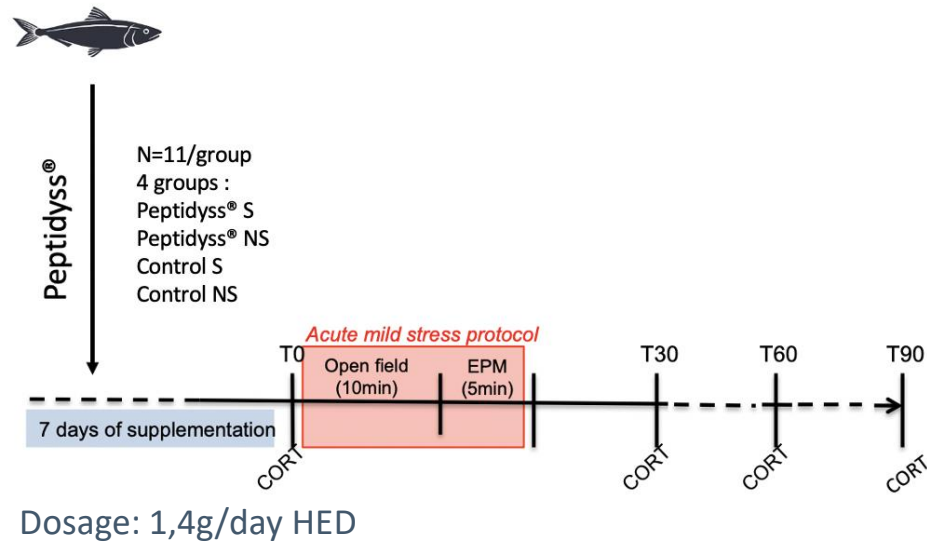
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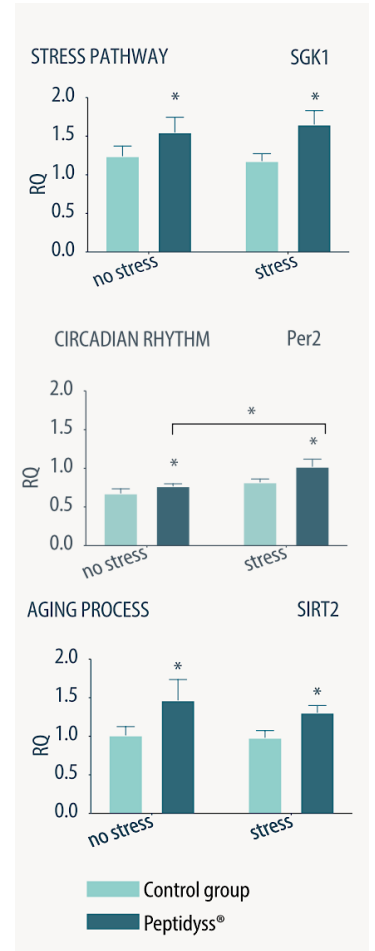
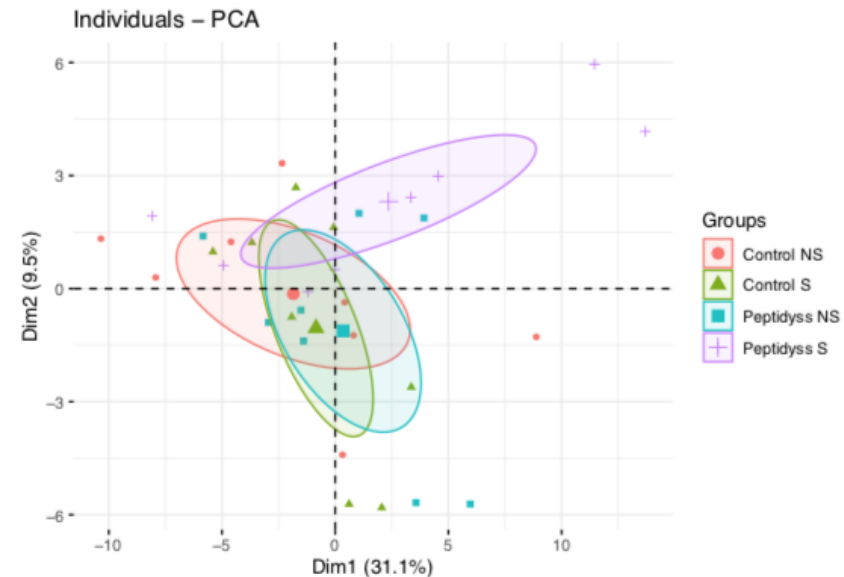
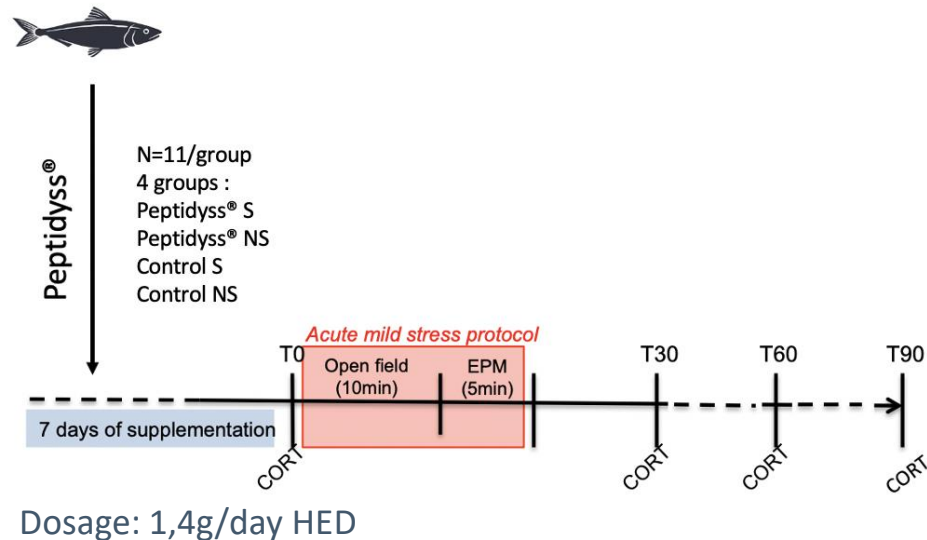
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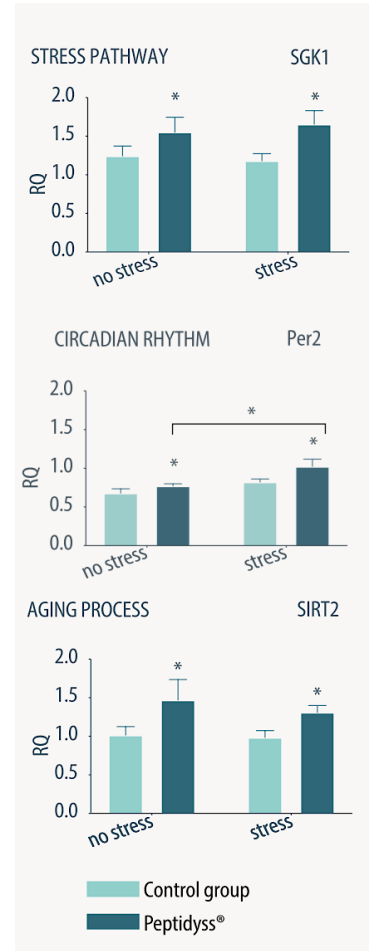
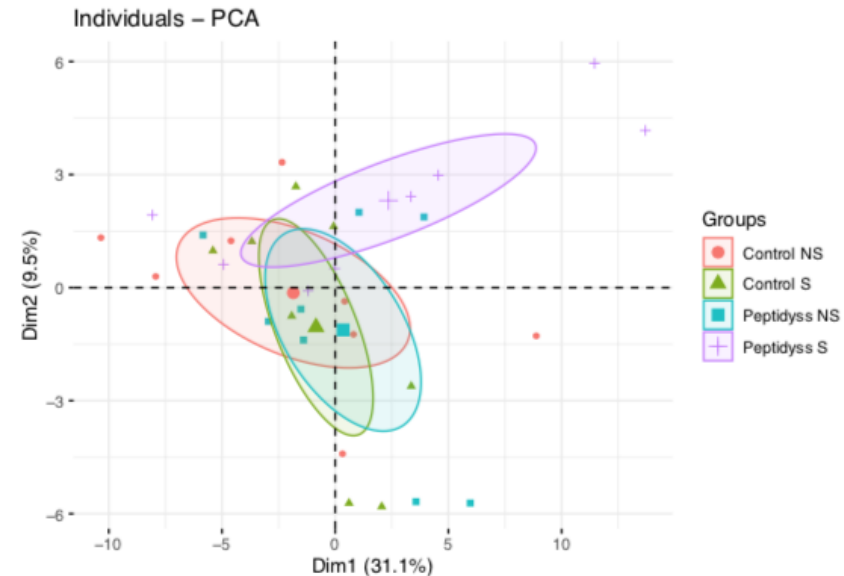
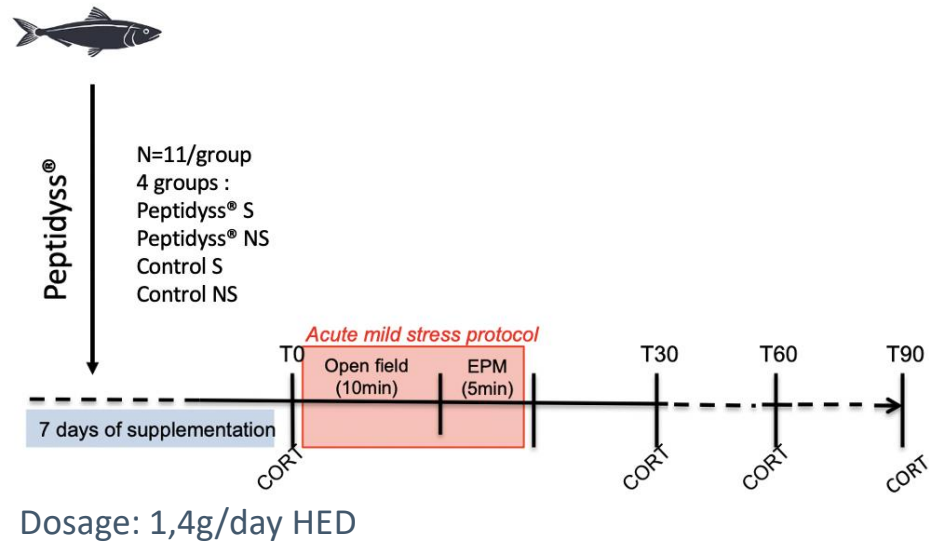
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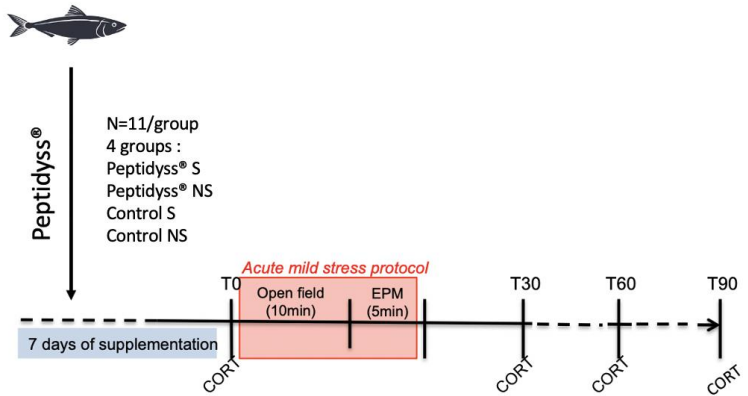
❖ With modulation of stress-responsive gene expression, preclinical study (2019)



Modulation of the expression of stress-responsive genes but also the one implicated in circadian rhythm and aging process

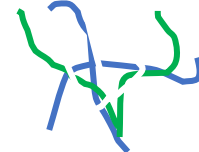
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❖ Label-free quantitative proteomics study, preclinical study (ongoing)



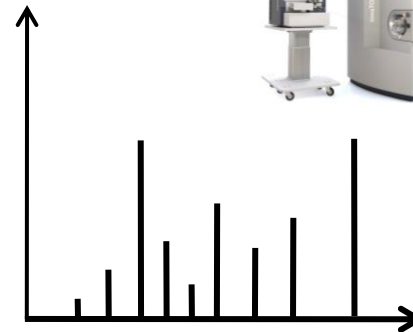
Proteins

PROTEASES



Peptides

nLC-MS/MS Acquisition



Identification
Quantification

Rank	Score	Identified Peptide	Protein
1	2489 (65%)	P15497	BOVIN 30276.5 AFOLIPROTEIN A-1 PRECURSOR
2	39204 (17%)	P46247	ACHPL 26934.1 30S RIBOSOMAL PROTEIN S3

Detailed Results

Data	M+H	Delta	start	end	Peptide Sequence	Modifications	
1523	1523	0.0	177	183	(K)AMVELR(Q)		
423	423	0.0	150	150	(K)YAPLGEER(G)		
1026	1026	1.5881	164	172	(K)SLPQLER(D)		
1040	1040	1.6147	229	237	(K)AKPVLDELK(Q)		
1218	1218	5.795	3372	206	217	(K)EGGGLAFLYAK(A)	
1255	1255	6.574	23096	36	46	(K)DEATVYAEK(D)	
1260	1260	6.013	67520	131	139	(K)WHEEYER(Q)	
1266	1266	7.0489	120	129	(K)VPVLEER(Q)		
1288	1288	6.1738	184	194	(K)QLAPYSDDLK(Q)		
1305	1305	6.639	98838	184	194	(K)QLAPYSDDLK(Q)	
1398	1398	6.963	63824	130	139	(K)WHEEYER(Q)	
1398	1398	6.965	71643	51	63	(K)DYVAQFLASAK(G)	
1482	1482	8.208	72204	34	46	(K)DEATVYAEK(D)	
1576	1576	8.223	53672	69	82	(K)LDYWDYLASTLSE(V)	
2188	2188	10.39	86184	83	100	(K)REQLGPTQFVNDLKE(G)	pyroGlu

Mascot, Peaks, Maxquant

Peptidyss[®], supported by research



❖ VIPP, collaborative project (2018 – 2021)

The objective?

Identify and **characterize** the **bioactive peptides** responsible for stress management in Peptidyss[®]

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Better know Peptidyss[®]

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❖ VIPP, collaborative project (2018 – 2021)

Supported by ERDF and Region Bretagne



In collaboration with industrial and academic partners



Peptidyss[®], supported by research

❖ VIPP, collaborative project (2018 – 2021)



Peptidyss[®], supported by scientific evidences

❖ Evaluation of stress and sleeping disorders management effects, clinical study (2022)

Launch of a clinical study

Confirm the preclinical results on **stress management** and better investigate Peptidyss[®] effects on **sleeping disorders**.

Randomised double-blind cross-over vs placebo

Duration: 4,5 months

Number of participants: 44 people men and women 35-60 y.o.

Evaluated dosage: 1,4g/day



Thank you for your attention

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NCE Blue Legasea Confidential

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