genodics

dialoguer avec le vivant

Genodic Process · Patent EP0648275B1

Genodics Technology at the Service of Fermentation

30+ years of applied research

6 independent studies

Wine fermentation · Bread-making · Cell biology

Modulating protein biosynthesis through sound sequences: from baker’s yeast to human cells

Advanced Fermentation Technology 2026
Lille · June 30 – July 1, 2026

The Genodic Process

Epigenetic regulation of protein biosynthesis — Joël Sternheimer (patent EP0648275B1)

TARGET PROTEIN

Amino acid sequence identified from databases

PROTEODY

Transposed into audible sound frequencies (melody)

BIOLOGICAL EFFECT

Targeted stimulation or inhibition of protein synthesis in vivo

Full Specificity

One unique proteody per target protein.
Both stimulation AND inhibition possible.

Non-invasive & additive-free

Sound diffusion only.
Zero additives, zero chemical residues.

Measurable action

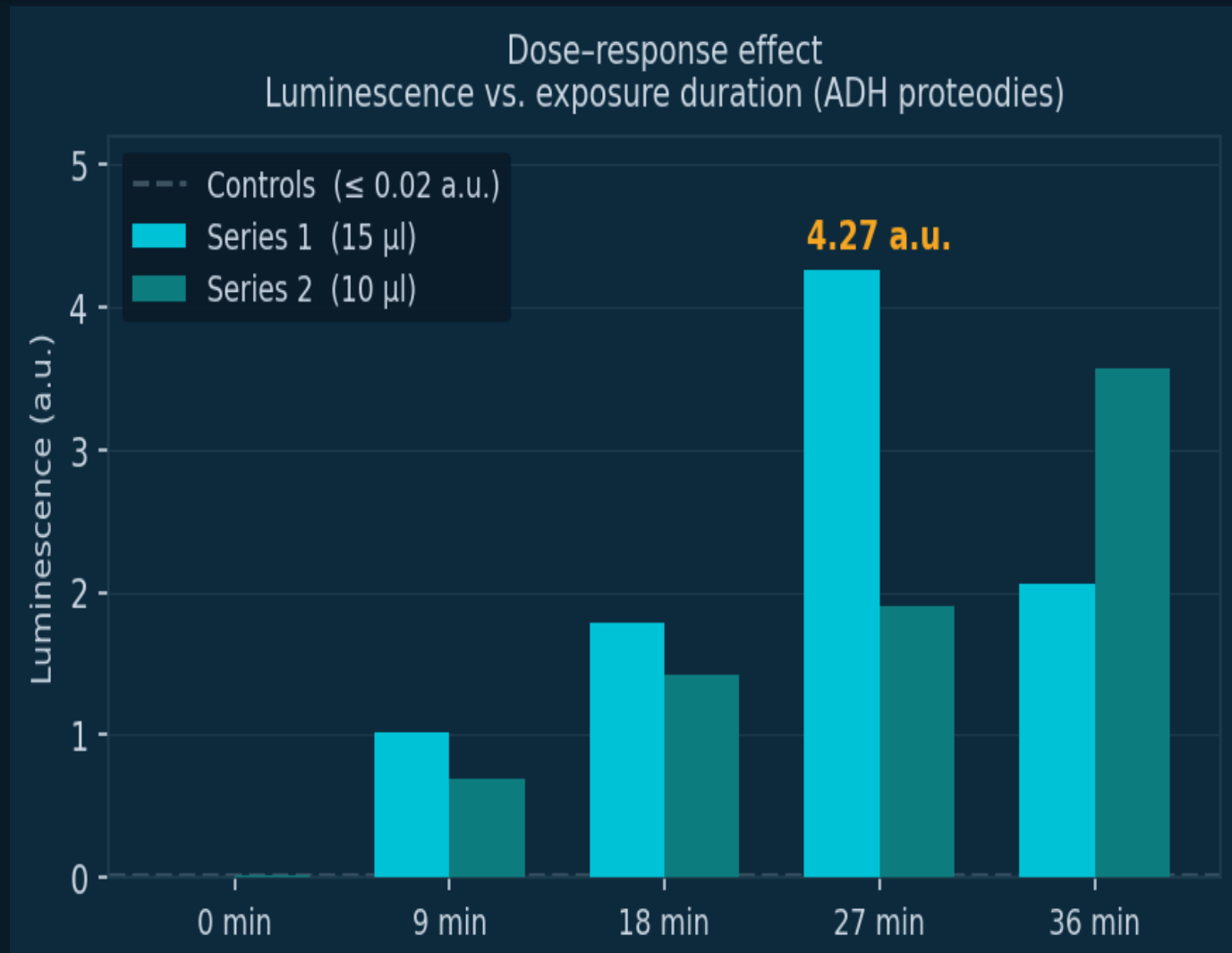
Effects quantified by biochemical analyses, ELISA, microscopy.

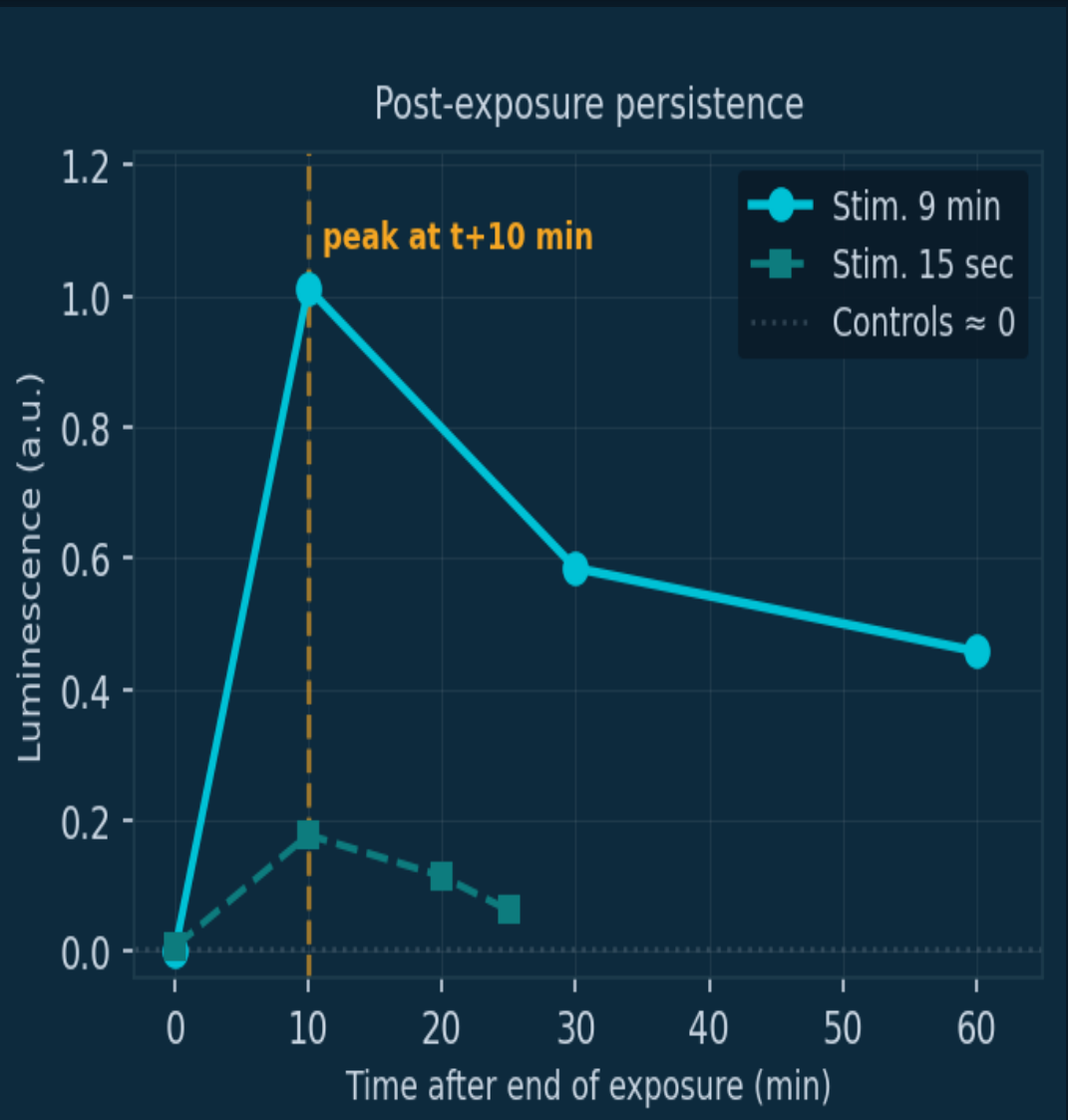
Validated applications

Yeasts · Bacteria · Plants
Human cells (ovarian cancer)

Vibrio fischeri — Experimental Validation in Microbiology

C. Loizeau · University of Metz · Toxicology Lab. · Target genes: luxA & luxB · 2003





« It is possible to STIMULATE PROTEIN SYNTHESIS IN A HIGHLY SIGNIFICANT MANNER using proteodies. » — C. Loizeau, Univ. Metz

Bread-making — ENSMIC Paris, 1993

P. Ferrandiz | Industries des Céréales No. 85 | Target enzyme: ADH of S. cerevisiae

+6%

average volume

Musical loaves vs. controls

2.7σ

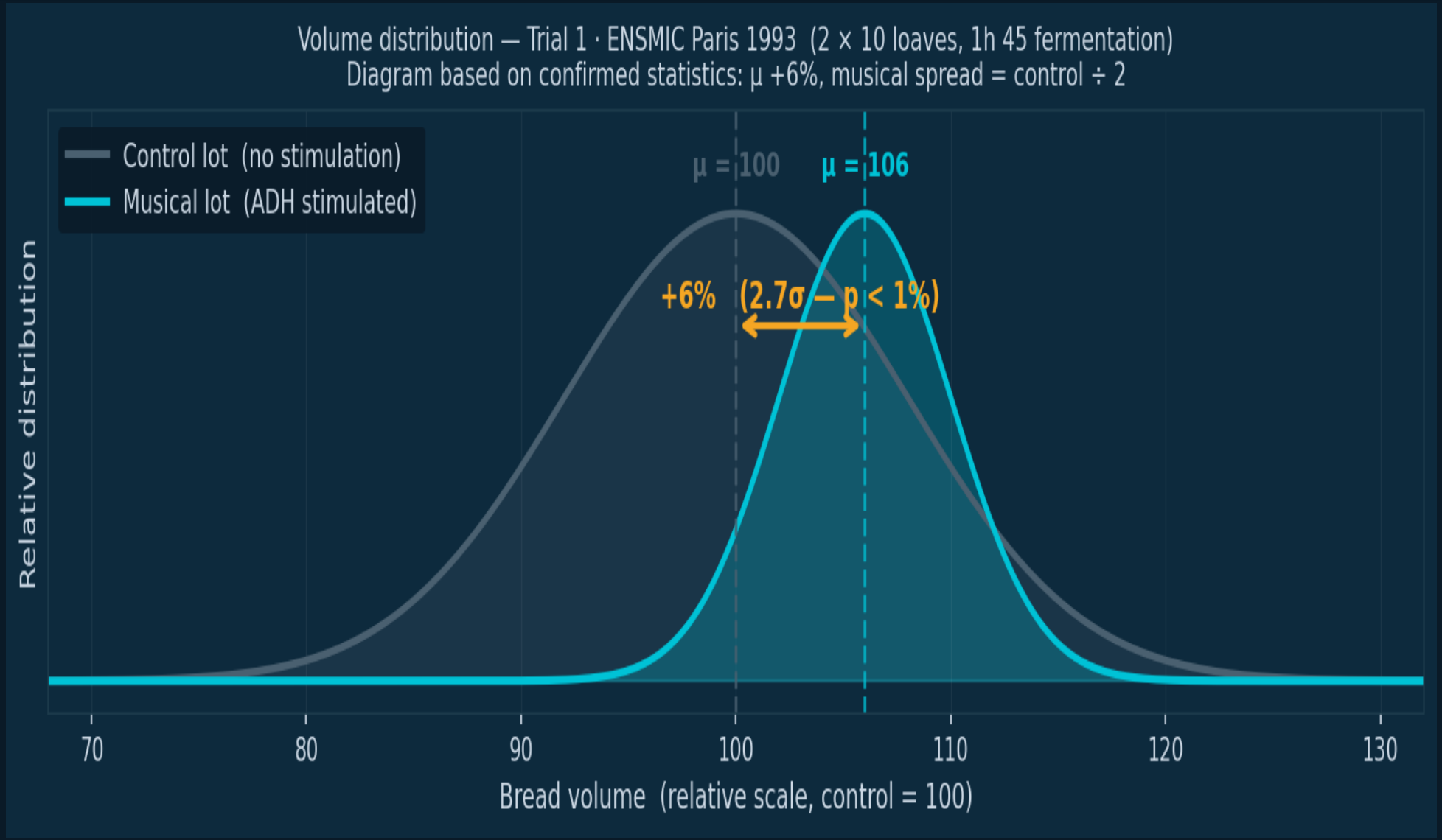
p < 1%

Statistical significance

> 60%

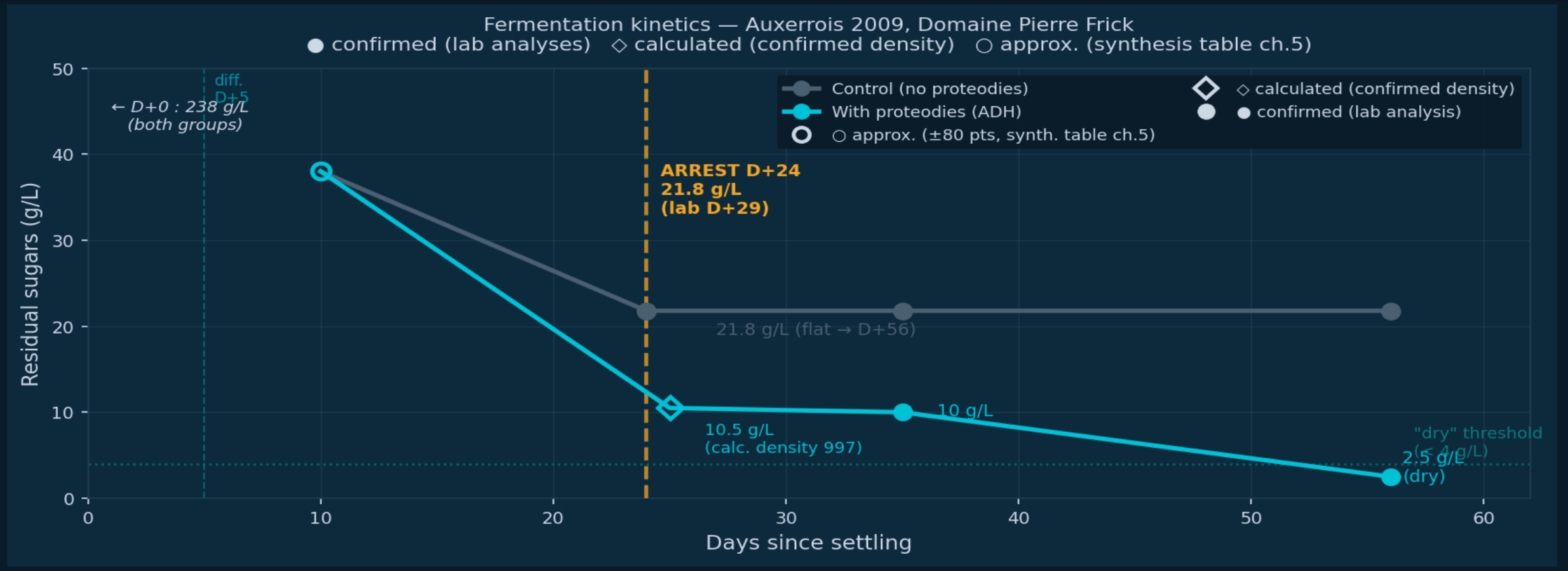
of panelists

Taste preference (n=30)



Prevention of Fermentation Arrest — Domaine Pierre Frick, 2009

Alsace · 4 trials · ADH proteody of S. cerevisiae · OSEO PTR funding



Key result

2 out of 3 preventive trials successful.
Proteody lot → complete fermentation where control group arrested.

Critical rule

Start diffusion AFTER D+5
(end of yeast aerobic phase).
Indicator: density drop < 60 pts at D+10.

Unexpected benefit

Treated lots = no malolactic fermentation
→ pathway toward reducing sulfite use in must.

Yeast Veil Stimulation — Vin Jaune, Château d'Arlay 2012

33 barrels 228 L | 16 stimulated / 17 controls | 2 diffusions/day × 10 min | Zero exogenous additives

+57.7%

acetaldehyde (mg/L)

Stimulated vs. controls — Jan. 2013

−6.4%

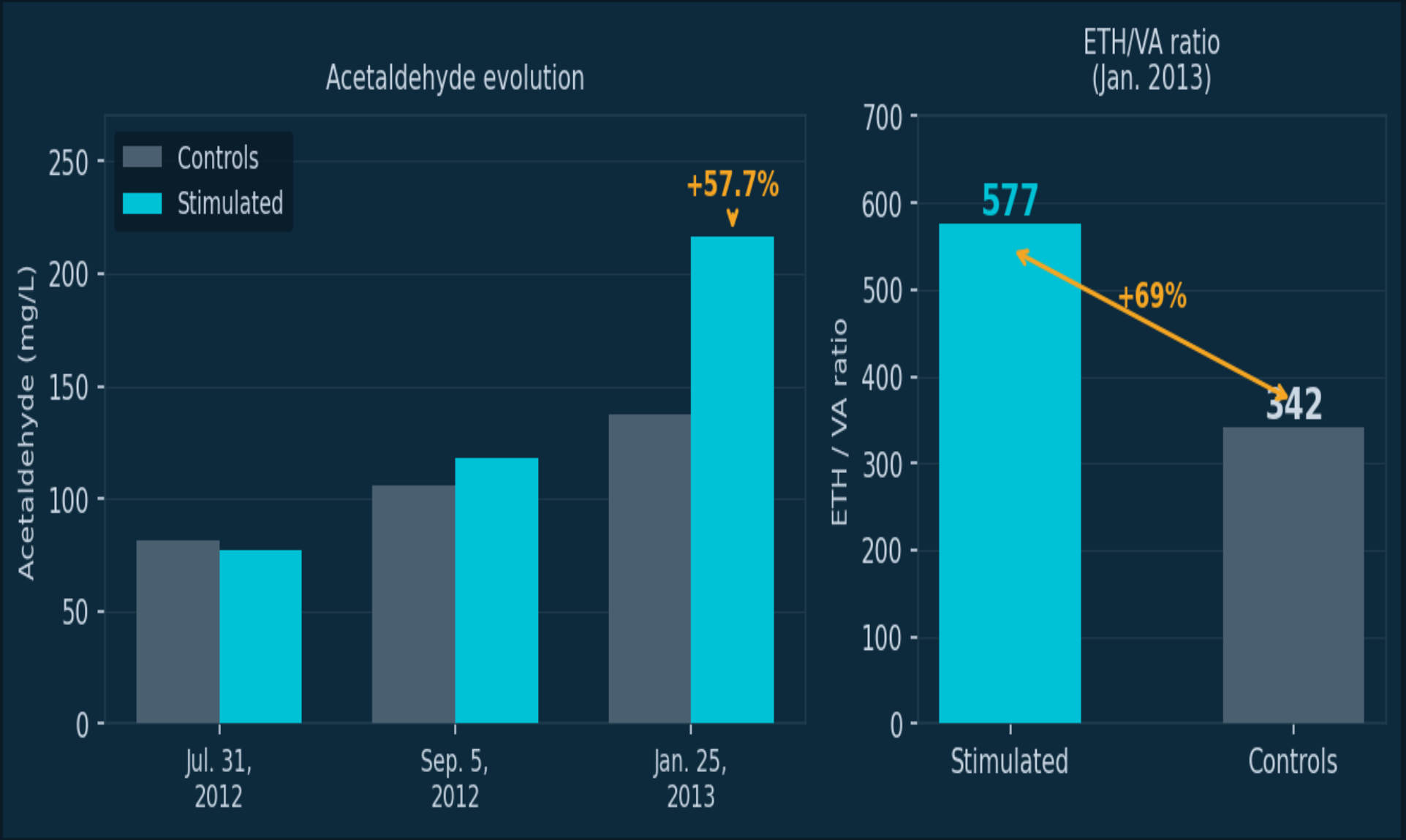
volatile acidity

Stimulated vs. controls — Jan. 2013

+69%

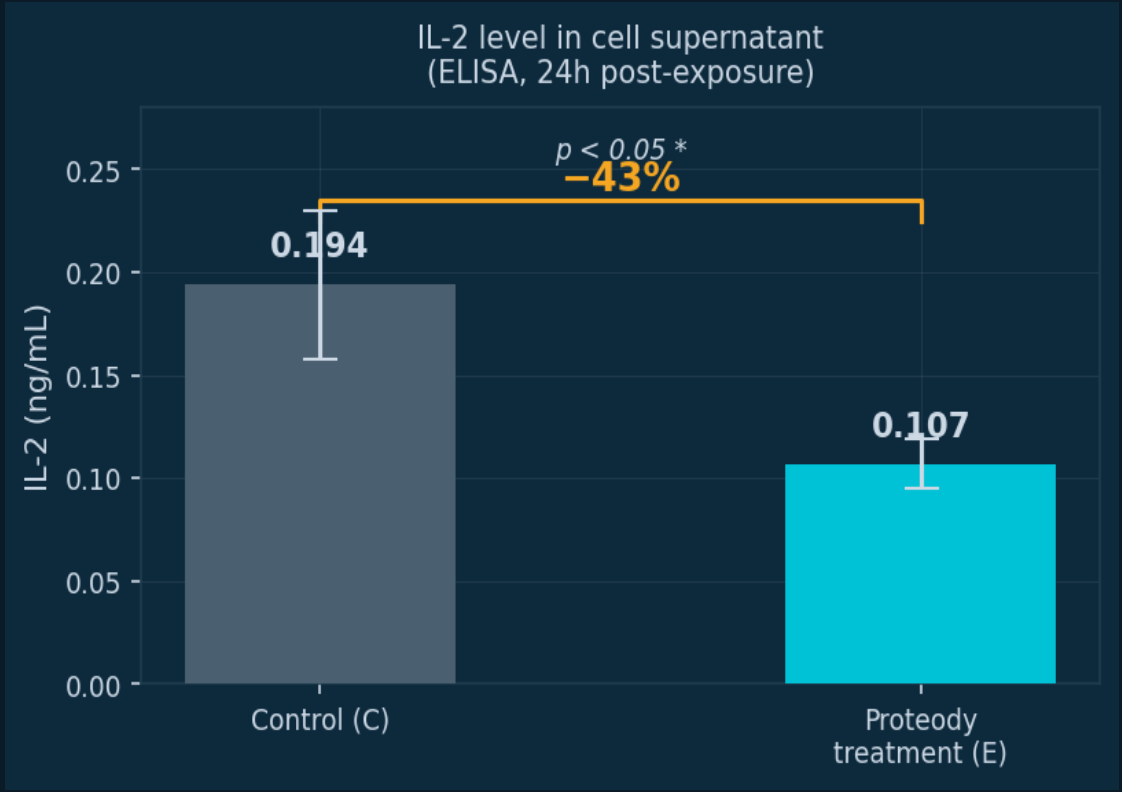
ETH/VA ratio

Stimulated vs. controls — Jan. 2013



Validation in Cell Biology

From marine bacteria to human cancer cells — molecular control via proteody



ESPCI Paris – 2003 · MC Lang (INSERM), M. Lempereur, H.T. Duc (CNRS)

AcouCell Project — CY Cergy Paris, 2021

SKOV3 cells (ovarian cancer) · M. Trenchand M2 · Double-blind

Genodics proteodies provided double-blind (stimulating + inhibiting).

- Increased GFP fluorescence in stimulated cells vs. controls.
- More pronounced α5-integrin projections (confocal microscopy ×63).
- Enhanced vinculin / α5-GFP colocalization → strengthened focal contacts.
- Tested sequence identified as stimulating (consistent with ESPCI results).

→ Proof of concept at single-cell level on a human target protein.

CY CERGY PARIS UNIVERSITÉ
genodics dialoguer avec le vivant
ERRMECe MEC-uP Matrice Extracellulaire Comportement cellulaire &Physiopathologie
Réseau Associatif de chercheurs Indépendants
RAChI Association loi du 1er juillet 1901

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30 years of converging evidence: Genodics optimises fermentation

A non-invasive, additive-free, patented technology — applicable to any biological process

1993 Bread-making	2003 Vibrio fischeri	2003 ESPCI · IL-2	2008–09 Wine ferment.	2012 Vin Jaune	2021 AcouCell
+6% volume p < 1% ADH specificity	Peak 4.27 a.u. Ctrls ≈ 0.000	−43% IL-2 Triplicates 1st molec. proof	2/3 preventive trials successful Zero sulfites	+57.7% acetald. −6.4% vol. acid. Durable effect	↑ Integrins ↑ Vinculin Double-blind

Objective : Diversifying Applications –> Industrial Biotech Partners

-> 18 years experience in Agriculture
-> Rapid Growth Potential in Biotech