



**Trial Report
n° X/2005**

**lactium™ activity in
Matinal UHT-milk**

LACTOGAL



TRIALS AIM :

To validate lactium™ activity in a ***UHT-milk*** from LACTOGAL, after different shelf life times :

- fresh product,
- 120 days shelf life.



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1- MATERIEL & METHODS

➤ UHT-Milk composition



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1- MATERIEL & METHODS

➤ UHT-milk Process



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1- MATERIEL & METHODS

Conditioned Defensive Burying method

The Relaxing effect of a UHT-milk (Matinal from LACTOGAL) containing lactium™ was tested on Conditioned Defensive Burying method at different times :

- fresh milk (D=0),
- milk after 120 days of shelf life.

UHT-milk has been orally administered to the male Wistar rat :

- Acclimatization of the rats during a period of 7 days
- 4 groups of 8 rats:
 - vehicle,
 - lactium™ in powder (reference),
 - fresh Matinal UHT-milk without lactium™,
 - fresh Matinal UHT-milk with lactium™,
- 3 groups of 12 rats:
 - vehicle,
 - lactium™ in powder (reference),
 - 120 days Matinal UHT-milk with lactium™,
- UHT-milks were lyophilised after proper ageing (0 and 120 days)
- After storage, all the powdered products were solubilized in sterilized water before administration
- UHT-milks were administered at 3 g/kg of rat so that rats ingested 15 mg of lactium™ which corresponds to the active dose in rats
- Oral administration was made 1 hour before the test
- After shock administration (stressing event), the behavior of the rats were recorded during 5 minutes
- Global anxiety score = Sum of the rankings for three parameters:
 - duration of probe-burying;
 - number of head stretching towards the probe
 - percentage of approaches towards the probe followed by retreats

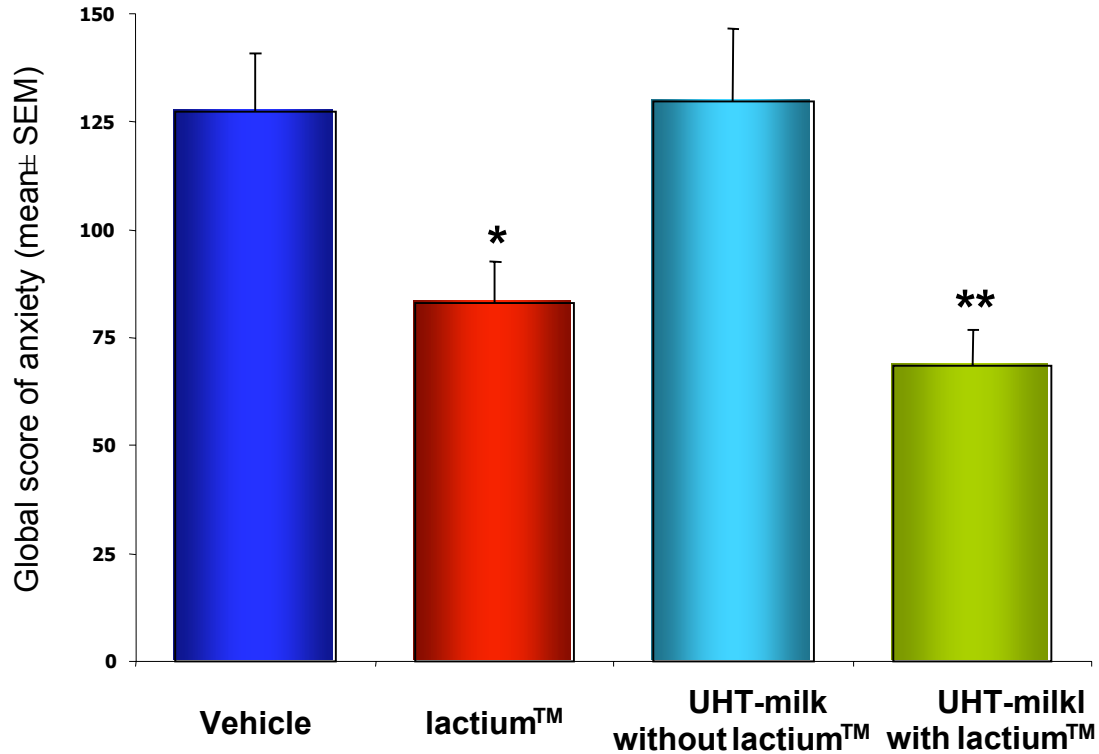


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2- RESULTS

➤ Fresh Matinal UHT-milk

Products	Vehicle (n = 8)	lactium™ (n = 8)	Matinal UHT- milk without lactium™ (n = 8)	Matinal UHT- milkwith lactium™ (n = 8)
Mean ± SEM	127.38 ± 13.61	83.00 ± 9.54	129.88 ± 16.62	68.50 ± 8.50
Kruskal-Wallis test H(df=7)=19.57. P=0.007 Mann-Whitney test (vs. Vehicle) Significance		U = 12.00 p = 0.034	U = 31.50 NS*	U = 4.00 p = 0.002

*NS : non significant difference



Mann-Whitney test (vs. Vehicle): *p<0.05 - ** p< 0.01.



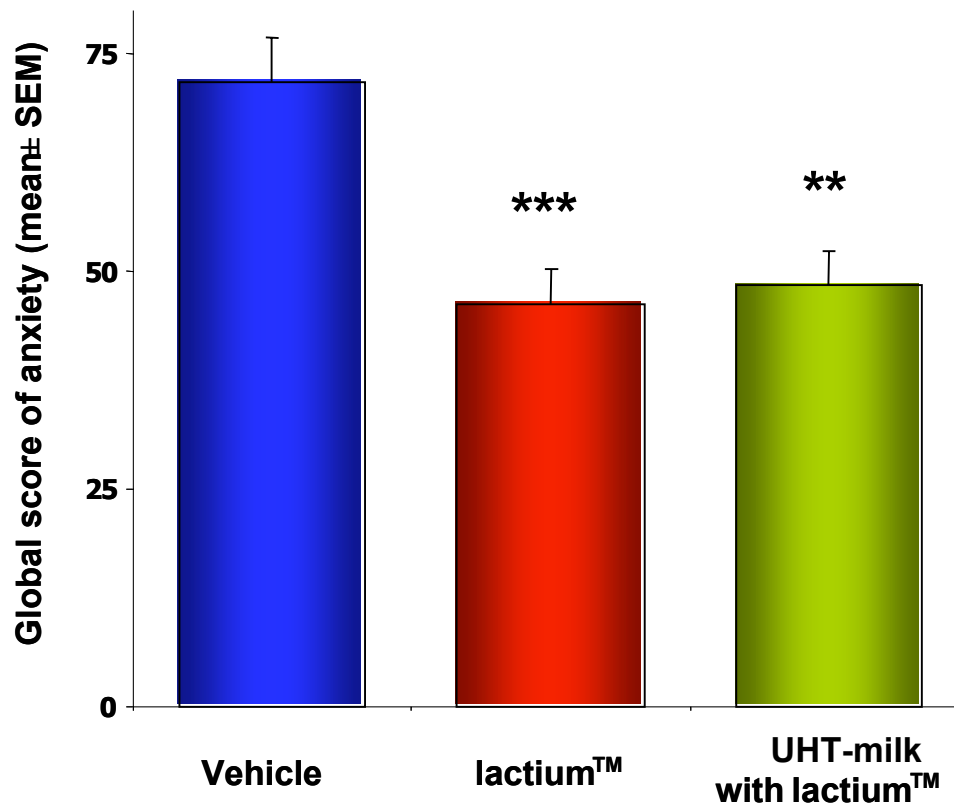
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2- RESULTS

➤ 120 days Matinal UHT-milk

Products	Vehicle (n = 12)	lactium ^T _M (n = 12)	120-Day Matinal with lactium TM (n = 12)
Mean ± SEM	71.92 ± 4.95	46.21 ± 4.14	48.38 ± 4.10
ANOVA F(2.33)=10.42; P<0.001 Dunnett's t test (vs. Vehicle) Significance		t=3.98 P<0.001	t=3.66 P<0.005

*NS : non significant difference



Mann-Whitney test (vs. Vehicle): ** p< 0.01, *** p< 0.001.



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3- COMMENTS

- Fresh and 120 days shelf life Matinal UHT-milk containing lactium™, orally administered, significantly decrease the global score of anxiety of rats submitted to a conditioned defensive burying test in comparison with vehicle and pure lactium™.
- It is not the case for Matinal UHT-milk without lactium™.
- The UHT heat treatment does not denature lactium™.



CONCLUSIONS :

- ✓ The process of UHT-milk does not decrease the activity of lactium™.
- ✓ Moreover, after 120-days of shelf-life, the Matinal UHT-milk with lactium™ is still active.