Activated Zeolite
PANACEO

Randomised, placebo-controlled, double-blind trial of the dietary supplement **PANACEO SPORT** for lactate levels and improvement of performance

Trial on how PANACEO SPORT influences lactate concentration in athletes

Details of the institution

Doctors: Dr Knapitsch, Prof Schmölzer
Department: Dr Knapitsch and Prof Schmölzer's institute for sports medicine and sports sciences
Location: St. Veiter Str. 180, A-9020 Klagenfurt, Austria

Initiator of trial

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Title of trial

Randomised, placebo-controlled, double-blind trial of the effect of PANACEO SPORT on lactate values in subjects during physical stress.

Internal title and/or code number

Lactate test

1 Notes on the necessity of the trial

1.1 Objectives, trial design

This trial proves that lactate values during physical stress can be reduced by taking PANACEO SPORT; and subjects who take PANACEO SPORT will be able to improve their performance without exceeding the lactate threshold.

1.2 Hypothesis

Our hypothesis is that PANACEO SPORT reduces lactate concentration in the body, and prevents the production of more lactate thus increasing the performance considerably.

1.3 Endpoints of the trial

The trial shows, that Panaceo Sport
- reduces lactate;
- boosts power and energy;
- revives;
- helps to regenerate faster;
- increases the body's resistance;
- stimulates stamina.

The objective of this trial is to confirm the above hypotheses, so that they can be used as the statement of positive effects of PANACEO SPORT.

1.4 Present scientific findings regarding the subject matter of the trial

All tests carried out so far involving top athletes, produced excellent results. With PANACEO SPORT lactate concentration could be reduced by almost 30%. All subjects produced considerably better performances, had more stamina and needed less time for regeneration. Generally, the athletes felt better subjectively. Furthermore, they seemed less prone to illnesses and injuries.

1.5 Significance of the trial

This trial will prove that for the first time a purely natural mineral can act as a very strong lactate buffer, thus leading to excellent performances.

2. Notes on the overall organisation of the trial

2.1 General information

2.1.1 Type of trial

A randomised, placebo-controlled, double-blind trial. That means subjects randomly receive placebo or active agent. Neither the subjects, nor those in charge of the tests know which group is receiving placebo and which active agent.

2.1.2 Schedule of the trial

The trial was carried out in August 2004.
Length of trial: 2 weeks

2.2 Subjects

2.2.1 Inclusion/Exclusion criteria

Inclusion criteria:
Male and female competitive athletes, who have some years of experience, and who are highly health-conscious.

Exclusion criteria:
Men and women who do not do sports on a regular basis.
Ill or injured persons.

2.2.2 Number of subjects

The total number of subjects is 24 persons, half of them receiving PANACEO SPORT and the other half placebo.

2.2.3 Biostatistical analysis

In the field of sports athletes' bodies are more or less at the same level of performance. Considering the positive effects we have already obtained in the past, this number of subjects will certainly be sufficient for solid results.

2.3 The method specified

Small blood samples will be taken from subjects in order to measure lactate concentration.

2.4 Implementation of the trial

2.4.1 Description of the methods and the implementation of the trial

• Athletes who will be our subjects receive randomly placebo/active agent (everyone takes a box from a case, where boxes containing placebo as well as boxes containing Panaceo Sport are kept).

• Neither the athletes themselves, nor the doctors in charge of the tests know who received placebo and who active agent. The only identification is a consecutive numbering on each box. Only after the end of tests will participants learn about the contents of the boxes.

• Before the first test, a thorough medical checkup will be made on each athlete by Dr Knapitsch to make sure that the subjects are able to do the tests. With the first test the actual condition of each subject is determined by measuring lactate concentration in blood. After this test the subjects take the boxes containing placebo/active agent.

• After the first test, subjects take 3 capsules Panaceo Sport 3 times daily with meals.

• After 7 days lactate concentration is measured again. On this day 12 capsules Panaceo Sport are taken 30 minutes prior to the test instead of the usual dosage of 3 times 3 capsules.

• After the test, subjects continue with 3 capsules Panaceo Sport 3 times daily with meals.

• After another 7 days lactate concentration is measured one last time. On this day 12 capsules Panaceo Sport are taken 30 minutes prior to the test instead of the usual dosage of 3 times 3 capsules.

2.5. Risk estimate

These tests pose no risk to participants.

4 Further information

Product information: PANACEO SPORT

PANACEO SPORT consists of activated zeolite, dolomite (calcium and magnesium), Maca and Royal Jelly.

• Zeolite
Zeolites are natural microporous silicate minerals; they can be colourless, white or pale red. Zeolite consists mainly of silicon, one of the most abundant and important elements of the earth.

The crystal lattice structure of zeolites consists of silicon and aluminium oxide tetrahedrons, which are bound together by oxygen bridges. Thus a well-defined structure is formed with void space identical cavities connected to each other by channels. Small molecules can enter these cavities and be adsorbed (e.g. ammonium). Zeolites are very strong ion exchangers.

• Maca
Maca, a plant from the Andes, was used by the Incas; it is considered one of the richest plants and therefore it is also called "Peruvian ginseng".

• Royal Jelly
Royal Jelly is the only food given to bee queen larvae. While worker bees have a six-week life span, queens live three to five years and grow to enormous sizes. The queen can lay as many as two thousand eggs a day which is more than her own weight.

• Magnesium and Calcium
Absolutely essential for every athlete, and of eminent importance for the nervous system, the bone structure as well as the musculoskeletal system.

Original

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Evaluation of the double-blind trial of the dietary supplement
PANACEO SPORT versus placebo for lactate levels

Description:

From August 2, 2004 to August 17, 2004 a double-blind trial on measures for enhancing physical performance was carried out in Dr Knapitsch and Mr Schmölzer's institute for sports medicine and sports sciences (St. Veiterstrasse 180, A-9020 Klagenfurt).

A total of 24 subjects took part in this trial.
12 subjects received the dietary supplement PANACEO. Six of them were female and the other six male.
The other 12 subjects received placebos which have no effect. In this group four subjects were female and eight were male.
Subjects themselves took random boxes containing either placebo or Panaceo Sport (without knowing the content). This was supervised by Mr Poosch who also managed the course of the tests.

Test configuration:

August 2nd and 3rd, 2004 the first tests involving all subjects before taking Panaceo/placebo.
The results obtained for lactate concentrations at the 2, 3 and 4 mmol/l thresholds are considered as the 100% reference value.

August 9th and 10th, 2004 second series of tests involving all subjects after one week of taking Panaceo/placebo.
The results at the 2, 3 and 4 mmol/l thresholds were compared with the 100% reference value.

August 16th and 17th, 2004 the third series of tests involving all subjects.
The results at the 2, 3 and 4 mmol/l thresholds were compared with the 100% reference value obtained after the first test.

The subjects were recruited form a athletic group; they have different performance levels. They did not change the length and intensity of their training sessions in the course of the trial
All tests on the treadmill were taken under the same conditions.
Blood samples were analysed using the BIOSEN5030 lactate analyser.

Female subjects started their training sessions with 6 km/h, after 3 minutes 20 seconds they had a break (blood sample from the ear lobe). After each break the speed was increased by 2 km/h.
Male subjects started their training sessions with 8 km/h.

For one of the female subjects, a top athlete, the speed was increased by 2 km/h from the start. For one of the male subjects, the speed had to be reduced by 2 km/h to the same level as the female group.

Form and dosage:

3 capsules 3 times daily, after the first test
12 capsules, at once - 30 minutes prior to the test

Zeolite as raw material:

PANACEO Sport is activated zeolite, a powder made of volcanic ash and a silicon which has been activated by a special tribomechanical process. Research results obtained by Professor Pavelic (Rudjer Boskovic Institute for Molecular Biology Marburg) and Professor Colic (University of Santa Barbara) show that it is a strong antioxidant, immune modulator as well as an antiviral agent.

In the course of this trial we as sports scientists were mainly interested in the antioxidative effect of zeolite and in how it improves the performance.

Free radicals are highly aggressive; they attack and destroy cellular compounds. They are highly reactive molecules or atoms, with one or more unpaired electrons in their outer shell. Free radicals are formed by exposure to stress situations (radiation exposure, chemo therapy, electromagnetic pollution, excessive alcohol consumption, viral or bacterial infections, environmental pollution, as well as excessive physical stress etc.)
The body's own immune system often cannot cope with free radicals and so the organism is prone to their attacks. Antioxidants help to maintain our health.

An oxidation process, where oxygen is used, helps to buffer the negative effects of free radicals. PANACEO Sport replaces this process and helps to save oxygen, which means that

1.) … you can exercise within your fat burning zone for a longer period, thus extending the 2 mmol threshold (aerobe / anaerobe).

2.) … due to a better oxygen supply, heart rate will remain at a low level for a longer period and your training will be more efficient.

3.) … taking PANACEO Sport continuously reduces the risk of rupture of a muscle fibre, since it enhances oxygen supply. It also prevents colds which would have negative effects on your training.

Original

Statistical evaluation:

PANACEO

The average changes at 2 mmol/l of the initial value from the 1st test to 3rd test were 13.98 %.
At the 3mmol/l threshold there was a difference of 10.19 % between the 1st and 3rd test.
At the 4mmol/l threshold there was a difference of 9.39% between the 1st and 3rd test.
The maximum improvement was 26.53 % at the 2 mmol/l threshold; 22.89% at the 3 mmol/l threshold and 18.28%at the 4 mmol/l threshold.

Placebo

In the group who were given placebo, the values changed as follows:
2.53% at the 2 mmol/l threshold;
1.77% at the 3 mmol/l threshold, and
2.30% at the 4 mmol/l threshold.

Interpretation:

After revealing which group had taken PANACEO and which placebo, we found out that all subjects who had taken PANACEO showed a considerable increase in performance in lactate tests.

We were quite surprised by the results of this trial, since we usually expect such an increase in performance only after weeks of training. So it seems that taking PANACEO continuously will lead to better performance, as it has been proved by this trial.

By taking PANACEO free radicals are neutralised faster due to the oxidation process. Usually muscle metabolism consumes a lot of oxygen with PANACEO more oxygen is left for the muscle to use.

Dr Christian Knapitsch

Prof Siegfried Schmölzer

Activated Zeolite

PANACEO

ACTIVE AGENT

Name	Test 1	Test 2	Test 3	Average change	Maximum increase
Average values	Test 1	Test 2	Test 3	Test 1-3	Test 1-3
2 mmol/l	10.54 km/h	11.65 km/h	12.01 km/h	13.98%	26.53%
3 mmol/l	12.02 km/h	13.02 km/h	13.24 km/h	10.19%	22.89%
4 mmol/l	13.22 km/h	14.14 km/h	14.46 km/h	9.39%	18.28%

Proband 1	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	7.00 km/h	7.90 km/h	8.60 km/h	22.86%
3 mmol/l	8.30 km/h	10.00 km/h	10.20 km/h	22.89%
4 mmol/l	9.30 km/h	11.00 km/h	11.00 km/h	18.28%

Proband 2	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	15.50 km/h	17.60 km/h	17.60 km/h	13.55%
3 mmol/l	17.60 km/h	19.10 km/h	19.30 km/h	9.66%
4 mmol/l	19.10 km/h	20.20 km/h	20.40 km/h	6.81%

Proband 3	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	11.20 km/h	12.40 km/h	12.40 km/h	10.71%
3 mmol/l	13.10 km/h	13.60 km/h	13.90 km/h	6.11%
4 mmol/l	14.50 km/h	14.40 km/h	14.90 km/h	2.76%

Proband 4	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9,60 km/h	9,60 km/h	10,20 km/h	6,25%
3 mmol/l	10,90 km/h	11,10 km/h	11,60 km/h	6,42%
4 mmol/l	11,80 km/h	12,20 km/h	12,60 km/h	6,78%

Proband 5	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	8,10 km/h	9,10 km/h	10,20 km/h	25,93%
3 mmol/l	9,80 km/h	10,50 km/h	11,50 km/h	17,35%
4 mmol/l	11,10 km/h	11,40 km/h	12,50 km/h	12,61%

Proband 6	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	14,20 km/h	16,00 km/h	15,90 km/h	11,97%
3 mmol/l	16,80 km/h	18,00 km/h	17,60 km/h	4,76%
4 mmol/l	17,90 km/h	19,00 km/h	18,70 km/h	4,47%

Proband 7	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9.80 km/h	12.50 km/h	12.40 km/h	26.53%
3 mmol/l	11.80 km/h	13.90 km/h	13.80 km/h	16.95%
4 mmol/l	13.10 km/h	14.90 km/h	14.80 km/h	12.98%

Proband 8	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9.90 km/h	11.60 km/h	10.90 km/h	10.10%
3 mmol/l	12.20 km/h	14.40 km/h	13.70 km/h	12.30%
4 mmol/l	13.50 km/h	15.90 km/h	15.60 km/h	15.56%

Proband 9	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	7.90 km/h	8.60 km/h	8.30 km/h	5.06%
3 mmol/l	9.30 km/h	9.80 km/h	10.10 km/h	8.60%
4 mmol/l	9.90 km/h	10.60 km/h	11.60 km/h	17.17%

Name	Test 1	Test 2	Test 3	Average change
Proband 10	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	8.10 km/h	9.40 km/h	9.10 km/h	12.35%
3 mmol/l	9.70 km/h	11.20 km/h	11.10 km/h	14.43%
4 mmol/l	10.90 km/h	12.40 km/h	12.40 km/h	13.76%

Proband 11	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	12.20 km/h	11.00 km/h	13.80 km/h	13.11%
3 mmol/l	13.20 km/h	12.50 km/h	14.90 km/h	12.88%
4 mmol/l	14.00 km/h	13.50 km/h	15.50 km/h	10.71%

Proband 12	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	10.30 km/h	11.00 km/h	11.00 km/h	6.80%
3 mmol/l	12.90 km/h	13.30 km/h	13.00 km/h	0.78%
4 mmol/l	14.10 km/h	15.00 km/h	15.00 km/h	6.38%

PLACEBOS

Name	Test 1	Test 2	Test 3	Average change
Average values	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	12.13 km/h	11.85 km/h	11.82 km/h	-2.53%
3 mmol/l	13.56 km/h	13.63 km/h	13.32 km/h	-1.77%
4 mmol/l	14.68 km/h	14.77 km/h	14.35 km/h	-2.30%

Proband 13	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9.30 km/h	8.50 km/h	9.60 km/h	3.23%
3 mmol/l	10.80 km/h	10.20 km/h	10.90 km/h	0.93%
4 mmol/l	11.80 km/h	11.30 km/h	11.70 km/h	-0.85%

Proband 14	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	10.70 km/h	11.60 km/h	11.30 km/h	5.61%
3 mmol/l	12.30 km/h	13.00 km/h	12.60 km/h	2.44%
4 mmol/l	13.50 km/h	14.00 km/h	13.40 km/h	-0.74%

Proband 15	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9.50 km/h	9.50 km/h	10.30 km/h	8.42%
3 mmol/l	11.50 km/h	13.60 km/h	12.40 km/h	7.83%
4 mmol/l	13.20 km/h	15.10 km/h	13.80 km/h	4.55%

Proband 16	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	15.00 km/h	15.00 km/h	15.10 km/h	0.67%
3 mmol/l	16.50 km/h	16.70 km/h	16.70 km/h	1.21%
4 mmol/l	17.40 km/h	17.80 km/h	17.80 km/h	2.30%

Proband 17	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	12.00 km/h	12.40 km/h	11.60 km/h	-3.33%
3 mmol/l	13.50 km/h	13.70 km/h	13.70 km/h	1.48%
4 mmol/l	14.60 km/h	14.60 km/h	15.00 km/h	2.74%

Proband 18	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	16.00 km/h	16.10 km/h	- -	
3 mmol/l	17.90 km/h	18.50 km/h	- -	
4 mmol/l	19.10 km/h	19.80 km/h	- -	

Name	Test 1	Test 2	Test 3	Average change
Proband 19	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	11.10 km/h	9.40 km/h	9.90 km/h	-10.81%
3 mmol/l	12.90 km/h	12.70 km/h	12.80 km/h	-0.78%
4 mmol/l	14.10 km/h	14.30 km/h	14.20 km/h	0.71%

Proband 20	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	15.70 km/h	14.00 km/h	15.60 km/h	-0.64%
3 mmol/l	17.20 km/h	16.00 km/h	17.20 km/h	0.00%
4 mmol/l	18.00 km/h	17.20 km/h	18.20 km/h	1.11%

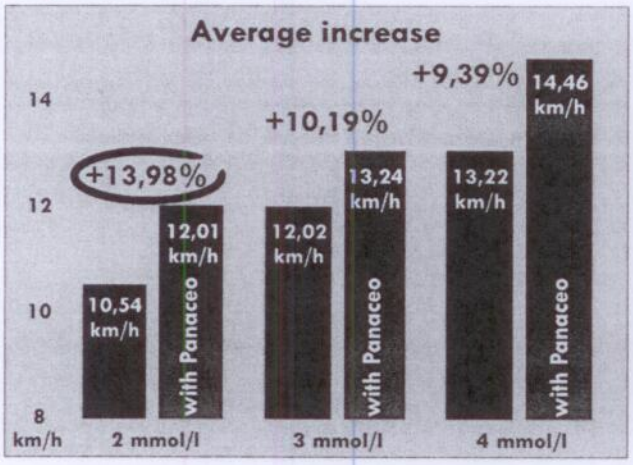
Proband 21	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	12.20 km/h	11.80 km/h	11.70 km/h	-4.10%
3 mmol/l	13.40 km/h	12.90 km/h	12.80 km/h	-4.48%
4 mmol/l	14.00 km/h	13.50 km/h	13.50 km/h	-3.57%

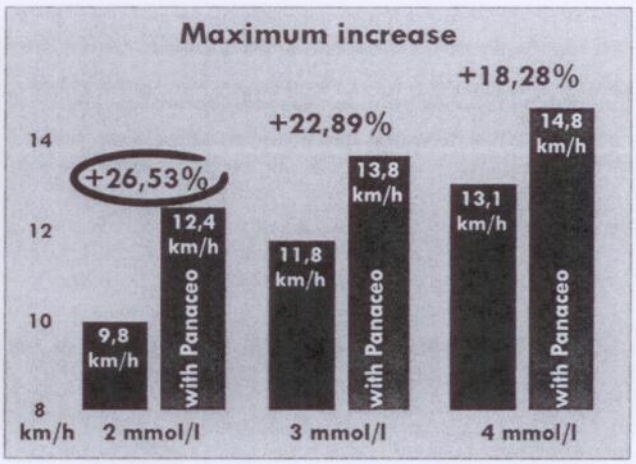
Proband 22	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	9.20 km/h	9.90 km/h	10.20 km/h	10.87%
3 mmol/l	10.70 km/h	10.90 km/h	11.10 km/h	3.74%
4 mmol/l	11.80 km/h	11.50 km/h	11.70 km/h	-0.85%

Proband 23	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	11.70 km/h	11.50 km/h	11.90 km/h	1.71%
3 mmol/l	13.10 km/h	13.30 km/h	13.30 km/h	1.53%
4 mmol/l	14.00 km/h	14.00 km/h	13.90 km/h	-0.71%

Proband 24	Test 1	Test 2	Test 3	Test 1-3
2 mmol/l	12.70 km/h	12.20 km/h	12.90 km/h	1.57%
3 mmol/l	14.30 km/h	13.90 km/h	14.40 km/h	0.70%
4 mmol/l	15.60 km/h	14.80 km/h	15.20 km/h	-2.56%

Diagram showing the results:





The group which was given Panaceo Sport showed an average increase in performance of 13.98 % at 2 mmol lactate.

Without exceeding the lactate threshold of 2 mmol, maximum increase was 2.6 km/h.