



Privatklinik Villach



## CLINICAL OBSERVATION

The antioxidative effect of active volcano material zeolite  
to the oxidative system

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# CONTENT

<b>1. Partner .....</b>	<b>page 3</b>
<b>2. Aim of the study .....</b>	<b>page 3</b>
<b>3. What are Free Radicals?.....</b>	<b>page 3</b>
<b>4. Products.....</b>	<b>page 5</b>
<b>5. Intake and dosage.....</b>	<b>page 7</b>
<b>6. Measurement: MIDES.....</b>	<b>page 7</b>
<b>7. Summary of the clinical observation .....</b>	<b>page 7</b>
<b>8. Conclusion.....</b>	<b>page 7</b>

## **1. Partner**

The partners of the clinical observation are represented by

- Prim. Dr. Wolfgang Thoma, medical leader of the Privatklinik Villach
- Dr. Claudia Gunzer, generally sworn and judicially certificated expert, leader of the genterchnical lab, Privatklinik Villach
- Christian Herzog, executive manager of GEOMIN HANDELS GMBH

## **2. Aim of the study**

is the confirmation of the antioxidative effect of the active volcanomineral zeolite (tribomechanical micronized clinoptilolite) in the human organism, following the importance for the immunesystem.

The aim of the study is to measure Free Radicals, and to observe the decline intaking active volcanomineral.

## **3. What are Free Radicals?**

Through the processing of oxygen in our body and the reaction in the metabolism appear unstable connections, the so called “Free Radicals”. Because Free Radicals are very “reaction joyful”, they can damage cells. Free Radicals can be formed through excessively physical effort, fat food, diets and environment influences how air pollution, tobacco smoke or ultraviolet radiation.

Free Radicals are responsible for the rise of a lot of diseases:

Accelerated aging process, arteriosclerosis (iscaemic heart illness), neurological illnesses (Morbus Alzheimer, Morbus Parkinson, stroke), rheumatic illnesses, diabetes mellitus, cataract, liver illnesses, disturbances of the immune system as well as cancer and other.

Endogenic enzymes serve to diminish Free Radicals, however, not always get ready with their forced appearance by the current way of life. Active volcano mineral can serve to protect against the harmful effects of Free Radicals.

They are unstable high-reactive atoms or molecules with one or several unpaired electrons.

Radical oxygen connections appear on the one hand from pollutants like denaturation of foods, stress, tobacco, alcohol, viruses, bacteria etc, on the other hand, however, also by difficult consuming illnesses as well as chemo-and radiotherapy.

On the basis of the increasing environmental impacts our body must finish with the so-called " Free Radicals ". But we dispose of always less opposing forces, " Oxidative stress " is preprogrammed.

Free Radicals can arrange not only local losses, but they also release chain reactions. In the course of the years the body so far is weakened, that it brings less resistance to the Oxidative stress.

The " Oxidative stress " overtax the immune system and can lead to cell death. This can lead to arteriosclerosis, raised cholesterol, infarcts, forward ageing and a lot more.

To counteract now to these processes and to protect our body against " Free Radicals ", our body needs help, namely an aimed food supplement.

Prof. Umberto Cornelli from the Loyola university in Chicago comes to the conclusion, that oxidative stress is an independent risk factor and aggravates therefore a number of pathological conditions. The control of the oxidative status -making a diet or using antioxidants- improves the pathological conditions.

## 4. Products



Zeolites are natural microporous silicat-minerals, which are colorless or light red with possible discolorations. They arise from impurities and / or additional other minerals. In the chemical composition these are Al-Na oder Al-Ca silicates, which foam by heating and decompose apparently.

In the nature you can find them in volcano assemblages and rocks, appeared from deposits of gases and damping, as well as in oceans. With regard to the morphologic quality, there are three basic forms:

- a) Kind of phase zeolites
- b) Leafy (flaky) zeolites
- c) Crystalline zeolites

In the nature 106 different zeolites are known. For the tribomechanical processing – there is a patent, which is announced for a device, the crystalline zeolite was selected, because of its quality of the receptiveness, selectivity and capacity of the ion exchange. For people the application of this mineral is completely harmless, which is covered by analyses of the chemical composition and toxicological examination by engaged scientists.

## Average chemical composition of the clinoptilolite

component	from (%)	to (%)
SiO <sub>2</sub>	61,96	67,17
TiO <sub>2</sub>	0,15	0,32
Al <sub>2</sub> O <sub>3</sub>	12,46	15,12
Fe <sub>2</sub> O	0,98	2,05
MnO	trace	0,05
MgO	1,30	1,96
CaO	3,03	4,35
Na <sub>2</sub> O	0,70	1,11
K <sub>2</sub> O	0,78	1,32
H <sub>2</sub> O bei 100 °C	4,05	4,74
H <sub>2</sub> O bei 1000 °C	7,56	9,56

Description:

### **Tribomechanic:**

Area of the mechanics, which concern itself with physical-mechanical transformations of materials under influence of mechanical energy.

### **Tribomechanical micronisation:**

The procedure to the increase of the ability to react and enlargement of the physical surface of materials by means of the effect mechanical (blow, friction) energy.

### **Activity:**

Step of the ability to react of a material

## **5. Intake and dosage**

The participants of the clinical observation took daily 3 x 3 tablets à 600 mg of active substance zeolite or 3 x 2 teaspoons powder.

## **6. Measurement: MIDES**

Free Radicals in the blood damage the cell. (Lipide oxidize, protein, amino acid, etc). Waste products (hydroperoxide) appear from this oxidation process, which are measured with the F.R.A.S (Free Radical Analytical System). The share of the radicals corresponds so to the share of the hydroperoxide.

A drop capillary blood of the patient is brought in contact with the test tube. According to the number the oxidized lipids, the color is changing. The inserted photometer measures the intensity of the color and finds out the value of the oxiditive stress, it is measured in the unit U. Carr.

## **7. Summary of the clinical observation**

33 persons participated in the clinical observation.

The average change of the unit amounted **63 U.Carr** with ill persons, with healthy persons **83 U.Carr** (See table in the appendix).

## **8. Conclusion**

The carried out tests up to now with vitamin C and E-combinations no considerable improvement of the values could be stated in contrast to our clinical observation with active volcano mineral (the changes were in the measuring range of tolerance).

Name	Birthdate	weight kg	height cm	1. Measurement	Value	2. Measurement	Value	measurement value	U. Carr.
	2.6.1960	76	179	27.3.2002	325	8.5.2002	282	43	
				11.1.2002	395	13.2.2002	289	106	
	3.3.1962	51	160	27.3.2002	404	2.5.2002	277	127	
	16.4.1952	80	178	27.3.2002	383	24.4.2002	329	54	
	24.5.1943	75	174	27.3.2002	327	24.4.2002	234	93	
				17.1.2002	498	31.1.2002	400	98	
	20.2.1980	60	165	27.3.2002	580	8.5.2002	446	134	
	21.8.1948	86	185	29.11.2001	395	20.12.2001	334	61	
	6.12.1965	62	174	17.4.2002	382	21.5.2002	298	84	
				21.2.2002	450	25.3.2002	389	61	
				30.11.2001	408	17.12.2001	329	79	
	10.8.1945	83	172	27.3.2002	324	24.4.2002	249	75	
	4.10.1972	63	172	10.4.2002	527	16.5.2002	423	104	
				30.11.2001	359	20.12.2001	347	12	
				4.12.2001	525	20.12.2001	427	98	
	15.9.1940	92	183	11.4.2002	342	13.5.2002	286	56	
	27.12.1960	69	161	27.3.2002	410	8.5.2002	310	100	
	18.6.1949	74	178	27.3.2002	364	24.4.2002	279	85	
				6.2.2002	430	21.5.2002	298	132	
	14.7.1948	60	168	4.4.2002	386	14.5.2002	376	10	
	1.12.1966	80	172	27.3.2002	323	24.4.2002	262	61	
	22.1.1964	51	164	10.4.2002	466	14.5.2002	308	158	
								<b>83</b>	
<b>Average change of measurement: 83</b>									
Applied System: FRAS (Free Radical Analytical System) for measurment of the change in U. Carr									



Name	Birthdate	weight kg	height cm		1. measurement value	2. measurement value	measurementvalue U. Carr.		
	29.1.1948			HepC, Smoker	23.11.2001	377	30.11.2001	302	75
				Pille, Akne	21.1.2002	657	15.2.2002	463	194
	14.12.1930	90	186	Vaskulitis	18.4.2002	335	14.5.2002	250	85
	27.10.1943	61	156	Mamma Ca	7.12.2001	402	21.12.2001	364	38
					27.2.2002	407	12.3.2002	391	16
					15.4.2002	450	7.5.2002	400	50
	13.9.1963	54	166	Asthma Migräne	11.4.2002	454	26.4.2002	403	51
				rad.prost.ekt	17.1.2002	378	14.2.2002	328	50
	24.3.1956	60	165	Ca, Chemo	29.11.2001	480	4.4.2002	418	62
				Bypass	5.4.2002	471	8.5.2002	452	19
	11.3.1942			MammaCa	20.12.2001	394	2.1.2002	339	55
									<b>63</b>
Applied system: FRAS (Free Radical Analytical System) for measurment of the change in U. Carr									

Guide Lines for control of oxidative stress

Oxidative Stress = cell damage

Instrument to be used: FRAS (Free Radical Analytical System) for measurement in U.Carr.

