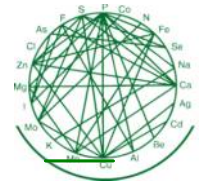


MICRO TRACE MINERALS GmbH

environmental & clinical laboratory



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MINERAL ANALYSIS		Canine		Lab Number	
				1DG10174x	
Doctor	Animal practice	Test Date		19. Mrz. 10	
Patient Name	Dalmation Bello	Age	9	Sex	m
Clinical Information		Skin problems			

Essential Macroelements (ppm = mg/kg = mcg/g)	Low	Acceptable Range	High
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Acceptable Range Test Value

Calcium	400.00 -- 2200.0	794.40	*****
Magnesium	87.00 -- 321.00	105.60	*****

Essential Trace Elements (ppm = mg/kg = mcg/g)	Low	Acceptable Range	High
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Acceptable Range Test Value

Chromium	0.01 -- 0.85	0.14	*****
Cobalt	< 0.35	0.00	<
Copper	11.00 -- 70.00	21.60	*****
Iodine	0.24 -- 1.99	0.52	*****
Iron	6.00 -- 72.00	10.75	*****
Manganese	0.20 -- 6.80	0.30	*****
Molybdenum	0.02 -- 0.72	0.04	*****
Selenium	0.60 -- 3.00	1.03	*****
Vanadium	0.01 -- 0.40	0.01	*****
Zinc	131.00 -- 252.00	95.00	*****

Nonessential Trace Elements (ppm = mg/kg)	Low	Acceptable Range	High
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Acceptable Range Test Value

Boron	< 4.00	0.29	*****
Germanium	< 0.40	0.00	<
Lithium	< 0.88	0.01	*****
Strontium	0.35 -- 6.00	1.19	*****

Potentially Toxic Elements (ppm = mg/kg = mcg/g)			High
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Acceptable Range Test Value

Aluminum	< 66.00	1.67	*****
Antimony	< 0.72	0.01	*****
Arsenic-total	< 0.71	0.04	*****
Barium	< 6.43	0.34	*****
Beryllium	< 0.06	0.00	<
Bismuth	< 0.03	0.00	<
Cadmium	< 0.13	0.02	*****

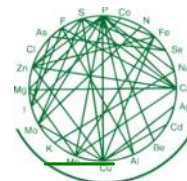
< Test value below Detection Limit

These 95percentile Reference Ranges listed above are representative for a healthy population. All elements are tested quantitatively.

Accreditation: DIN EN ISO 17025; Quality control: Dr. Rauland PhD; Validation: Dr E.Blaurock-Busch PhD

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Patient Name	Dalmation Bello	Age	9	Sex	m
Clinical Information		Skin problems			
Potentially Toxic Elements (ppm = mg/kg = mcg/g)					High

Acceptable Range Test Value

Lead	< 3.00	0.20	*****
Mercury	< 0.50	0.06	*****
Nickel	< 3.00	4.80 High	*****
Palladium	< 0.04	0.02	*****
Platinum	< 0.01	0.00	<
Silver	< 0.70	0.00	<
Thallium	< 0.20	0.00	<
Tin	< 0.88	0.00	<
Titanium	< 1.30	0.21	*****
Tungsten	< 0.01	0.00	<
Uranium	< 0.02	0.00	<
Zirconium	< 0.81	0.01	*****

< Test value below Detection Limit

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The spectroanalytical test of your animal's fur/hair sample determined the following mineral deficiencies and excesses. The information contained in this elemental analysis report is designed as an interpretive adjunct to normally conducted diagnostic procedures and is based on current research. Consult your veterinary or nutritional doctor for interpretation and treatment.

NICKEL (Ni) toxicity has been associated with dermatitis and pulmonary neoplasia resulting from industrial contamination. High levels have been associated with myocardial infarct, and are often found in stroke victims. Nickel excess may be due to nickel-cadmium batteries, jewelry, ceramics, cold wave permanents, welding, and smoke. Nickel carbonyl found in cigarette and cigar smoke is a strong carcinogen. Early symptoms of nickel exposure are apathy, diarrhea, skin problems, insomnia, vertigo, injury to cerebral blood vessels, vomiting and tachypnea. Toxicity symptoms include frontal headaches, gastroenteritis, eczema, cancer of the lung and nasal cavity. THERAPEUTIC CONSIDERATION. sulfur-bearing amino acids, pectin and antioxidants support oral chelation; in severe cases: chelation therapy using

NICKEL (Ni) may have a role in the animal metabolism, but high tissue levels are associated with enzyme dysfunctions, allergies, skin and fur problems and neurological disturbances. Nickel negatively affects adrenal function and is a contributing factor to heart problems, stroke, toxemia and cancer. The combination of nickel with carbon monoxide is highly toxic and dog of smokers are at a higher risk. SOURCE: nickel carbonyl is a carcinogen found in smoke, and is lethal in high doses. Animals exposed to cigarette smoke show higher tissue levels. Industrial pollution stems from the casting and chemical industry, nickel battery production, electronic and computer industries, rubber production and ink and dye manufacturing. THERAPEUTIC CONSIDERATION: increase intake of antioxidants such as vitamin E and C. Zinc is needed to block the nickel uptake into body tissues.

VANADIUM (V): the biological function of has not fully been substantiated, but there is evidence that it is essential for the growth of some animals. Vanadium may influence lipid metabolism, insulin function, and reduce caries formation in animals. Vanadium is poorly absorbed. SOURCE: all plant foods, esp. soy meal and vegetable oils.

ZINC (Zn) deficiency symptoms occur in animals, depending on their intake. Zinc is critical in making proteins and enhancing enzyme functions. It is needed for hormone production, healthy cells and immune functions. Some ingredients in dog food such as fiber can decrease zinc absorption. Skeletal abnormalities and poor vision are a prominent feature of zinc deficiency. In recent years, it was documented that some skin diseases in dogs, which did not respond to any other form of therapy, cleared entirely with appropriate zinc supplementation. The condition is called zinc-responsive dermatosis rather than zinc deficiency, because most of these dogs had "normal" zinc levels in blood. Most of the affected dogs were sled-dog breeds- siberian Huskies, Malamutes, and Samoyeds. It was believed to be a genetic defect that result sin a decreased ability to absorb zinc. Dogs suffereing from frequent diarrhea, liver or kidney disease, or diabetes have also shown to have a higher need for zinc, and dogs with chronic skin or immune problems often show a higher need for zinc. Low zinc levels affect growth development, both prenatal and postnatal, are associated with hair loss, eczema, delayed sexual development, reproductive problems, poor wound healing, and weak nails. Low zinc levels, especially in combination with high copper levels, has been associated with skin and fur problems. Zinc is useful for dogs with chronic immune problems. GOOD SOURCES: animal products, esp. muscle, organ meat and seafood. Grains are rich sources, but a high phytate content can block the zinc absorption. TREATMENT CONSIDERATION: Vitamin B6 supports zinc absorption.

Dalmation Bello

1DG10174x

Recommendations for the Elimination of Toxins: Water can be a source of potentially toxic metals, hence water testing may be recommended. To support the natural detoxification process, increase intake of high quality proteins or add amino-acid-containing nutritional supplements. Natural fiber foods and the addition of a few drops of high quality oils in food can aid the elimination of toxins.

VANADIUM: add vegetable or fish oil to food to improve vanadium levels

ZINC, 5-25mg/day depending on age and status