

HAIR ELEMENTS



PATIENT: Number 2
SEX: Male
AGE: 71
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	4.6	< 7.0		
Antimony	0.015	< 0.066		
Arsenic	0.061	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	< 0.002	< 0.060		
Cadmium	< 0.009	< 0.15		
Lead	0.52	< 2.0		
Mercury	4.6	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.006	< 0.060		
Nickel	0.16	< 0.40		
Silver	0.05	< 0.12		
Tin	0.13	< 0.30		
Titanium	0.47	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS							
ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	353	200- 750					
Magnesium	44	25- 75					
Sodium	69	12- 90					
Potassium	38	9- 40					
Copper	11	10- 28					
Zinc	190	130- 200					
Manganese	0.10	0.15- 0.65					
Chromium	0.42	0.20- 0.40					
Vanadium	0.026	0.018- 0.065					
Molybdenum	0.026	0.025- 0.064					
Boron	2.1	0.40- 3.0					
Iodine	1.3	0.25- 1.3					
Lithium	0.011	0.007- 0.023					
Phosphorus	182	160- 250					
Selenium	1.1	0.95- 1.7					
Strontium	3.6	0.30- 3.5					
Sulfur	46300	44500- 52000					
Barium	0.27	0.16- 1.6					
Cobalt	0.010	0.013- 0.035					
Iron	6.5	5.4- 13					
Germanium	0.036	0.045- 0.065					
Rubidium	0.057	0.011- 0.12					
Zirconium	0.042	0.020- 0.44					

SPECIMEN DATA				RATIOS		
COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 8/3/2006	Sample Size: 0.203 g			Ca/Mg	8.02	4- 30
Date Received: 8/31/2006	Sample Type: Head			Ca/P	1.94	0.8- 8
Date Completed: 9/5/2006	Hair Color: Brown			Na/K	1.82	0.5- 10
	Treatment:			Zn/Cu	17.3	4- 20
Methodology: ICP-MS	Shampoo: Organic			Zn/Cd	> 999	> 800

V06.99

HAIR TOXIC ELEMENT EXPOSURE PROFILE



PATIENT: Number 2a
 SEX: Male
 AGE: 72
 Location, Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Arsenic	0.063	< 0.20		
Lead	0.35	< 8.0		
Mercury	5.5	< 3.0		
Cadmium	0.032	< 0.70		
Chromium	0.51	< 0.75		
Beryllium	< 0.01	< 0.050		
Cobalt	0.011	< 0.10		
Nickel	0.21	< 1.0		
Zinc	190	< 270		
Copper	11	< 55		
Thorium	< 0.001	< 0.010		
Thallium	0.001	< 0.020		
Barium	0.70	< 5.0		
Cesium	0.003	< 0.010		
Manganese	0.16	< 1.5		
Selenium	0.94	< 2.7		
Bismuth	0.021	< 5.0		
Vanadium	0.044	< 0.20		
Silver	0.05	< 0.50		
Antimony	0.031	< 0.15		
Palladium	< 0.004	< 0.010		
Aluminum	6.3	< 19		
Platinum	< 0.003	< 0.010		
Tungsten	< 0.01	< 0.020		
Tin	0.05	< 0.80		
Uranium	0.001	< 0.20		
Gold	0.01	< 0.40		
Tellurium	< 0.05	< 0.050		
Germanium	0.033	< 0.085		
Titanium	0.48	< 2.0		
Gadolinium	< 0.001	< 0.008		

SPECIMEN DATA

Comments:

Date Collected: 9/6/2007
 Date Received: 9/13/2007
 Date Completed: 9/18/2007

Methodology: ICP-MS
 $\mu\text{g/g} = \text{ppm}$
 Sample Size: 0.171 g

Sample Type: Head
 Hair Color: Brown
 Treatment:
 Shampoo: Tea Tree

Metals are listed in descending priority order based upon data from the Agency for Toxic Substances and Disease Registry, which considers not only the relative toxicity per gram metal, but also the frequency for occurrence of exposure.