

HAIR ELEMENTS



PATIENT: No 7
 SEX: Male
 AGE: 42
 Location, Cape Town, South Africa

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	6.5	< 7.0		
Antimony	0.034	< 0.066		
Arsenic	0.045	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.003	< 0.060		
Cadmium	0.14	< 0.15		
Lead	1.4	< 2.0		
Mercury	1.3	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	0.002	< 0.005		
Uranium	0.006	< 0.060		
Nickel	0.82	< 0.40		
Silver	0.16	< 0.12		
Tin	0.23	< 0.30		
Titanium	0.53	< 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	2130	200- 750					
Magnesium	150	25- 75					
Sodium	8	12- 90					
Potassium	3	9- 40					
Copper	45	10- 28					
Zinc	190	130- 200					
Manganese	0.33	0.15- 0.65					
Chromium	0.46	0.20- 0.40					
Vanadium	0.044	0.018- 0.065					
Molybdenum	0.023	0.025- 0.064					
Boron	0.33	0.40- 3.0					
Iodine	1.5	0.25- 1.3					
Lithium	0.025	0.007- 0.023					
Phosphorus	150	160- 250					
Selenium	0.79	0.95- 1.7					
Strontium	4.7	0.30- 3.5					
Sulfur	45700	44500- 52000					
Barium	2.3	0.16- 1.6					
Cobalt	0.10	0.013- 0.035					
Iron	17	5.4- 13					
Germanium	0.041	0.045- 0.065					
Rubidium	0.005	0.011- 0.12					
Zirconium	0.20	0.020- 0.44					

SPECIMEN DATA				RATIOS		
COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 8/2/2006	Sample Size: 0.155 g			Ca/Mg	14.2	4- 30
Date Received: 8/31/2006	Sample Type: Head			Ca/P	14.2	0.8- 8
Date Completed: 9/12/2006	Hair Color: Brown			Na/K	2.67	0.5- 10
	Treatment:			Zn/Cu	4.22	4- 20
Methodology: ICP-MS	Shampoo: Pantene			Zn/Cd	> 999	> 800

V06.99

HAIR ELEMENTS



PATIENT: Number 7a
SEX: Male
AGE: 43
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	5.2	< 7.0		
Antimony	0.070	< 0.066		
Arsenic	0.055	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.042	< 2.0		
Cadmium	0.078	< 0.15		
Lead	0.92	< 2.0		
Mercury	0.57	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	0.001	< 0.005		
Uranium	0.003	< 0.060		
Nickel	0.33	< 0.40		
Silver	0.12	< 0.12		
Tin	0.23	< 0.30		
Titanium	0.32	< 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	1990	200- 750					
Magnesium	110	25- 75					
Sodium	42	12- 90					
Potassium	37	9- 40					
Copper	29	10- 28					
Zinc	190	130- 200					
Manganese	0.25	0.15- 0.65					
Chromium	0.46	0.20- 0.40					
Vanadium	0.049	0.018- 0.065					
Molybdenum	0.031	0.025- 0.064					
Boron	0.15	0.40- 3.0					
Iodine	1.3	0.25- 1.3					
Lithium	0.025	0.007- 0.023					
Phosphorus	169	160- 250					
Selenium	0.62	0.95- 1.7					
Strontium	3.5	0.30- 3.5					
Sulfur	46900	44500- 52000					
Barium	1.2	0.16- 1.6					
Cobalt	0.058	0.013- 0.035					
Iron	17	5.4- 13					
Germanium	0.037	0.045- 0.065					
Rubidium	0.027	0.011- 0.12					
Zirconium	0.13	0.020- 0.44					

SPECIMEN DATA

COMMENTS:

Date Collected: 9/6/2007 Sample Size: 0.196 g
 Date Received: 9/13/2007 Sample Type: Head
 Date Completed: 9/18/2007 Hair Color: Brown
 Treatment:
 Methodology: ICP-MS Shampoo: Pantene

V06.99

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	18.1	4- 30
Ca/P	11.8	0.8- 8
Na/K	1.14	0.5- 10
Zn/Cu	6.55	4- 20
Zn/Cd	> 999	> 800