

HAIR ELEMENTS



PATIENT: Number 4
SEX: Female
AGE: 61
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	11	< 7.0		
Antimony	0.030	< 0.050		
Arsenic	0.030	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.007	< 0.10		
Cadmium	0.25	< 0.10		
Lead	1.0	< 1.0		
Mercury	0.91	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.015	< 0.060		
Nickel	0.14	< 0.40		
Silver	1.9	< 0.15		
Tin	0.14	< 0.30		
Titanium	0.44	< 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	360	300- 1200					
Magnesium	16	35- 120					
Sodium	49	12- 90					
Potassium	28	8- 38					
Copper	12	12- 35					
Zinc	170	140- 220					
Manganese	0.21	0.15- 0.65					
Chromium	0.46	0.20- 0.40					
Vanadium	0.032	0.018- 0.065					
Molybdenum	0.030	0.028- 0.056					
Boron	4.4	0.30- 2.0					
Iodine	0.45	0.25- 1.3					
Lithium	0.006	0.007- 0.023					
Phosphorus	131	160- 250					
Selenium	1.5	0.95- 1.7					
Strontium	0.93	0.50- 7.6					
Sulfur	47100	44500- 52000					
Barium	58	0.26- 3.0					
Cobalt	0.016	0.013- 0.050					
Iron	7.0	5.4- 14					
Germanium	0.036	0.045- 0.065					
Rubidium	0.048	0.007- 0.096					
Zirconium	0.051	0.020- 0.42					

SPECIMEN DATA				RATIOS		
COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 8/16/2006	Sample Size: 0.203 g			Ca/Mg	22.5	4- 30
Date Received: 8/31/2006	Sample Type: Head			Ca/P	2.75	1- 12
Date Completed: 9/5/2006	Hair Color: Brown			Na/K	1.75	0.5- 10
	Treatment: Dye			Zn/Cu	14.2	4- 20
Methodology: ICP-MS	Shampoo: Natural			Zn/Cd	680	> 800

V06.99

HAIR ELEMENTS



PATIENT: Number 4a
SEX: Female
AGE: 62
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	5.0	< 7.0		
Antimony	0.033	< 0.050		
Arsenic	0.093	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.018	< 2.0		
Cadmium	0.057	< 0.10		
Lead	1.5	< 1.0		
Mercury	0.18	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.029	< 0.060		
Nickel	0.15	< 0.40		
Silver	4.5	< 0.15		
Tin	0.28	< 0.30		
Titanium	0.84	< 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	369	300- 1200					
Magnesium	110	35- 120					
Sodium	110	12- 90					
Potassium	81	8- 38					
Copper	10	12- 35					
Zinc	160	140- 220					
Manganese	0.55	0.15- 0.65					
Chromium	0.60	0.20- 0.40					
Vanadium	0.11	0.018- 0.065					
Molybdenum	0.034	0.028- 0.056					
Boron	2.2	0.30- 2.0					
Iodine	2.7	0.25- 1.3					
Lithium	0.012	0.007- 0.023					
Phosphorus	148	160- 250					
Selenium	0.77	0.95- 1.7					
Strontium	1.6	0.50- 7.6					
Sulfur	49000	44500- 52000					
Barium	0.78	0.26- 3.0					
Cobalt	0.030	0.013- 0.050					
Iron	7.9	5.4- 14					
Germanium	0.027	0.045- 0.065					
Rubidium	0.069	0.007- 0.096					
Zirconium	0.076	0.020- 0.42					

SPECIMEN DATA

COMMENTS:
 Date Collected: 8/24/2007 Sample Size: 0.177 g
 Date Received: 9/13/2007 Sample Type: Head
 Date Completed: 9/18/2007 Hair Color: Gray
 Treatment:
 Methodology: ICP-MS Shampoo: Gaia

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	3.35	4- 30
Ca/P	2.49	1- 12
Na/K	1.36	0.5- 10
Zn/Cu	16	4- 20
Zn/Cd	> 999	> 800

V06.99