

HAIR ELEMENTS



PATIENT: Number 121
 SEX: Female
 AGE: 31
 Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	5.9	< 7.0		
Antimony	0.042	< 0.050		
Arsenic	0.081	< 0.060		
Beryllium	< 0.01	< 0.020		
Bismuth	0.013	< 0.10		
Cadmium	0.17	< 0.10		
Lead	3.3	< 1.0		
Mercury	0.28	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.018	< 0.060		
Nickel	0.33	< 0.40		
Silver	0.10	< 0.15		
Tin	0.35	< 0.30		
Titanium	0.57	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS

ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	252	300- 1200					
Magnesium	6	35- 120					
Sodium	160	12- 90					
Potassium	120	8- 38					
Copper	15	12- 35					
Zinc	140	140- 220					
Manganese	0.10	0.15- 0.65					
Chromium	0.27	0.20- 0.40					
Vanadium	0.029	0.018- 0.065					
Molybdenum	0.028	0.028- 0.056					
Boron	0.45	0.30- 2.0					
Iodine	0.22	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	151	160- 250					
Selenium	0.59	0.95- 1.7					
Strontium	0.59	0.50- 7.6					
Sulfur	46300	44500- 52000					
Barium	0.20	0.26- 3.0					
Cobalt	0.008	0.013- 0.050					
Iron	8.4	5.4- 14					
Germanium	0.046	0.045- 0.065					
Rubidium	0.15	0.007- 0.096					
Zirconium	0.056	0.020- 0.42					

SPECIMEN DATA

COMMENTS:
 Date Collected: **3/29/2005**
 Date Received: **4/22/2005**
 Date Completed: **4/26/2005**
 Methodology: **ICP-MS**

Sample Size: **0.207 g**
 Sample Type: **Head**
 Hair Color: **Blond**
 Treatment:
 Shampoo: **Herbal Essence**

V06.99

RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	42	4- 30
Ca/P	1.67	1- 12
Na/K	1.33	0.5- 10
Zn/Cu	9.33	4- 20
Zn/Cd	824	> 800

HAIR ELEMENTS



PATIENT: Number 121a
SEX: Female
AGE: 31
Location: Cape Town, RSA

POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE	
			68 th	95 th
Aluminum	6.4	< 7.0		
Antimony	0.010	< 0.050		
Arsenic	0.060	< 0.060		
Beryllium	0.010	< 0.020		
Bismuth	0.002	< 2.0		
Cadmium	0.041	< 0.10		
Lead	0.64	< 1.0		
Mercury	0.11	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.32	< 0.060		
Nickel	0.19	< 0.40		
Silver	0.01	< 0.15		
Tin	0.16	< 0.30		
Titanium	0.42	< 1.0		
Total Toxic Representation				

ESSENTIAL AND OTHER ELEMENTS

ELEMENTS	RESULT µg/g	REFERENCE RANGE	PERCENTILE				
			2.5 th	16 th	50 th	84 th	97.5 th
Calcium	430	300- 1200					
Magnesium	37	35- 120					
Sodium	330	12- 90					
Potassium	100	8- 38					
Copper	16	12- 35					
Zinc	170	140- 220					
Manganese	0.11	0.15- 0.65					
Chromium	0.44	0.20- 0.40					
Vanadium	0.052	0.018- 0.065					
Molybdenum	0.019	0.028- 0.056					
Boron	0.18	0.30- 2.0					
Iodine	0.60	0.25- 1.3					
Lithium	< 0.004	0.007- 0.023					
Phosphorus	145	160- 250					
Selenium	0.50	0.95- 1.7					
Strontium	1.1	0.50- 7.6					
Sulfur	43500	44500- 52000					
Barium	0.20	0.26- 3.0					
Cobalt	0.025	0.013- 0.050					
Iron	8.2	5.4- 14					
Germanium	0.032	0.045- 0.065					
Rubidium	0.13	0.007- 0.096					
Zirconium	0.027	0.020- 0.42					

SPECIMEN DATA

RATIOS

COMMENTS:				ELEMENTS	RATIOS	EXPECTED RANGE
Date Collected: 10/10/2007	Sample Size: 0.203 g					
Date Received: 10/22/2007	Sample Type: Head			Ca/Mg	11.6	4- 30
Date Completed: 10/24/2007	Hair Color: Blond			Ca/P	2.97	1- 12
	Treatment:			Na/K	3.3	0.5- 10
Methodology: ICP-MS	Shampoo: Loreal Elvine			Zn/Cu	10.6	4- 20
	V06.99			Zn/Cd	> 999	> 800