

# HAIR ELEMENTS



Patient: Hair Test 104  
 Sex: Male  
 Age: 56  
 Location: Cape Town, South Africa

## POTENTIALLY TOXIC ELEMENTS

TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	8.3	< 7.0		
Antimony	0.019	< 0.066		
Arsenic	0.061	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.017	< 2.0		
Cadmium	0.017	< 0.15		
Lead	0.20	< 2.0		
Mercury	3.6	< 1.1		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.001	< 0.060		
Nickel	0.07	< 0.40		
Silver	0.03	< 0.12		
Tin	0.28	< 0.30		
Titanium	0.21	< 1.0		
Total Toxic Representation				

## ESSENTIAL AND OTHER ELEMENTS

ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE				
			2.5 <sup>th</sup>	16 <sup>th</sup>	50 <sup>th</sup>	84 <sup>th</sup>	97.5 <sup>th</sup>
Calcium	363	200- 750					
Magnesium	21	25- 75					
Sodium	89	12- 90					
Potassium	19	9- 40					
Copper	9.7	10- 28					
Zinc	150	130- 200					
Manganese	0.07	0.15- 0.65					
Chromium	0.56	0.20- 0.40					
Vanadium	0.056	0.018- 0.065					
Molybdenum	0.032	0.025- 0.064					
Boron	0.56	0.40- 3.0					
Iodine	0.18	0.25- 1.3					
Lithium	0.004	0.007- 0.023					
Phosphorus	138	160- 250					
Selenium	1.0	0.95- 1.7					
Strontium	0.99	0.30- 3.5					
Sulfur	43000	44500- 52000					
Barium	0.37	0.16- 1.6					
Cobalt	0.005	0.013- 0.035					
Iron	7.5	5.4- 13					
Germanium	0.025	0.045- 0.065					
Rubidium	0.032	0.011- 0.12					
Zirconium	0.98	0.020- 0.44					

### SPECIMEN DATA

**COMMENTS:**  
 Date Collected: 7/27/2007      Sample Size: 0.204 g  
 Date Received: 8/7/2007      Sample Type: Head  
 Date Completed: 8/13/2007      Hair Color: Gray  
    Treatment:  
 Methodology: ICP-MS      Shampoo: Body On Top

### RATIOS

ELEMENTS	RATIOS	EXPECTED RANGE
Ca/Mg	17.3	4- 30
Ca/P	2.63	0.8- 8
Na/K	4.68	0.5- 10
Zn/Cu	15.5	4- 20
Zn/Cd	> 999	> 800