

# HAIR ELEMENTS



**PATIENT:** Number 72  
**SEX:** Male  
**AGE:** 16

POTENTIALLY TOXIC ELEMENTS				
TOXIC ELEMENTS	RESULT $\mu\text{g/g}$	REFERENCE RANGE	PERCENTILE	
			68 <sup>th</sup>	95 <sup>th</sup>
Aluminum	5.9	< 8.0		
Antimony	0.019	< 0.066		
Arsenic	0.043	< 0.080		
Beryllium	< 0.01	< 0.020		
Bismuth	0.043	< 2.0		
Cadmium	0.048	< 0.15		
Lead	0.26	< 1.5		
Mercury	0.27	< 0.40		
Platinum	< 0.003	< 0.005		
Thallium	< 0.001	< 0.010		
Thorium	< 0.001	< 0.005		
Uranium	0.11	< 0.060		
Nickel	0.13	< 0.40		
Silver	0.06	< 0.13		
Tin	0.44	< 0.30		
Titanium	0.45	< 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	397	200- 700					
Magnesium	26	18- 70					
Sodium	7	12- 90					
Potassium	< 3	10- 40					
Copper	12	10- 30					
Zinc	180	130- 200					
Manganese	0.09	0.15- 0.65					
Chromium	0.41	0.20- 0.40					
Vanadium	0.022	0.020- 0.075					
Molybdenum	0.042	0.031- 0.062					
Boron	0.48	0.34- 3.0					
Iodine	0.17	0.25- 1.3					
Lithium	0.005	0.007- 0.023					
Phosphorus	203	160- 250					
Selenium	0.76	0.95- 1.7					
Strontium	0.86	0.30- 3.2					
Sulfur	47200	44000- 52000					
Barium	0.29	0.17- 1.5					
Cobalt	0.015	0.013- 0.035					
Iron	4.9	5.8- 13					
Germanium	0.040	0.045- 0.065					
Rubidium	0.010	0.009- 0.090					
Zirconium	0.48	0.047- 0.70					

SPECIMEN DATA				RATIOS		
<b>COMMENTS:</b>				<b>ELEMENTS</b>	<b>RATIOS</b>	<b>EXPECTED RANGE</b>
Date Collected:	3/10/2007	Sample Size:	0.2 g	Ca/Mg	15.3	4- 30
Date Received:	3/26/2007	Sample Type:	Head	Ca/P	1.96	0.8- 8
Date Completed:	3/29/2007	Hair Color:		Na/K	2.33	0.5- 10
Methodology:	ICP-MS	Treatment:		Zn/Cu	15	4- 20
		Shampoo:	Loreal	Zn/Cd	> 999	> 800

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