

## 2009 *Adverse Analytical Findings* and *Atypical Findings* Reported by Accredited Laboratories

### Overview of Results

**Table A** All Sports

Differentiation between Olympic and Non-Olympic Sports	A Samples Analyzed	A Samples <i>Adverse Analytical Findings</i> <sup>1,3</sup> (%)	A Samples <i>Atypical Findings</i> <sup>2,3</sup> (%)	A Samples Total <i>Findings</i> <sup>3</sup> (%)
Olympic Sports	<b>187,029</b>	<b>1,674 (0.90%)</b>	2,024 (1.08%)	3,698 (1.98%)
Non-Olympic Sports	<b>90,899</b>	<b>1,417 (1.56%)</b>	495 (0.54%)	1,912 (2.10%)
<b>TOTAL</b>	<b>277,928</b>	<b>3,091 (1.11%)</b>	2,519 (0.91%)	5,610 (2.02%)

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). "Adverse Analytical Finding" is defined in the World Anti-Doping Code as "a report from a laboratory or other WADA- approved entity that, consistent with the *International Standard for Laboratories* and related Technical Documents, identifies in a *Sample* the presence of a *Prohibited Substance* or its *Metabolites* or *Markers* (including elevated quantities of endogenous substances) or evidence of the *Use of a Prohibited Method*." These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). "Atypical Finding" is defined in the World Anti-Doping Code as "a report from a laboratory or other WADA-approved entity which requires further investigation as provided by the *International Standard for Laboratories* or related Technical Documents prior to the determination of an *Adverse Analytical Finding*". *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

## 2009 Adverse Analytical Findings and Atypical Findings Reported by Accredited Laboratories

### Comparison of Years 2003 to 2009

**Table A1**

Olympic and Non-Olympic Statistics

Differentiation between Olympic and Non-Olympic Sports	2003 A Samples Analyzed	2004 A Samples Analyzed	2005 A Samples Analyzed	2006 A Samples Analyzed	2007 A Samples Analyzed	2008 A Samples Analyzed	2009 A Samples Analyzed	A Samples Analyzed 2009 vs 2008
Olympic Sports	113,559	128,591	139,836	156,866	174,483	202,067	187,029	-7.4%
Non-Olympic Sports	37,651	40,596	43,501	41,277	49,415	72,548	90,899	25.3%
TOTAL	151,210	169,187	183,337	198,143	223,898	274,615	277,928	1.2%

Differentiation between Olympic and Non-Olympic Sports	2003 <i>AAFs</i> <sup>1,2</sup>	2004 <i>AAFs</i> <sup>1,2</sup>	2005 <i>AAFs</i> <sup>1,2</sup>	2006 <i>AAFs</i> <sup>1,2</sup>	2007 <i>AAFs</i> <sup>1,2</sup>	2008		2009		Total Findings <sup>3</sup> 2009 vs 2008
						<i>AAFs</i> <sup>1</sup>	Total Findings <sup>3</sup>	<i>AAFs</i> <sup>1</sup>	Total Findings <sup>3</sup>	
Olympic Sports	1,707	2,145	2,958	2,915	3,375	1,974	3,715	1,674	3,698	-0.5%
Non-Olympic Sports	740	764	951	972	1,027	982	1,346	1,417	1,912	42.1%
TOTAL	2,447	2,909	3,909	3,887	4,402	2,956	5,061	3,091	5,610	10.8%

Differentiation between Olympic and Non-Olympic Sports	2003 % Total Findings <sup>3</sup>	2004 % Total Findings <sup>3</sup>	2005 % Total Findings <sup>3</sup>	2006 % Total Findings <sup>3</sup>	2007 % Total Findings <sup>3</sup>	2008		2009		% Total Findings <sup>3</sup> 2009 vs 2008
						% <i>AAFs</i> <sup>1</sup>	% Total Findings <sup>3</sup>	% <i>AAFs</i> <sup>1</sup>	% Total Findings <sup>3</sup>	
Olympic Sports	1.50	1.67	2.12	1.86	1.93	0.98	1.84	0.90	1.98	7.5%
Non-Olympic Sports	1.97	1.88	2.19	2.35	2.08	1.35	1.86	1.56	2.10	13.1%
Overall	1.62	1.72	2.13	1.96	1.97	1.08	1.84	1.11	2.02	9.7%

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Adverse Analytical Findings* (AAF) in years 2003 to 2007 included findings that are defined in 2008 and 2009 as *Atypical Findings*.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories (Total and in ADAMS)**

**Total Results per Laboratory (All Sports)**

**Table B**

Laboratory		N Samples	N AAFs <sup>1</sup>	N AAFs <sup>4</sup> reported in ADAMS	% AAFs <sup>1</sup>	N ATFs <sup>2</sup>	N ATFs <sup>4</sup> reported in ADAMS	% Total Findings <sup>3</sup>
1	Sydney, Australia	6,834	41	41	0.60	129	129	2.49
2	Seibersdorf, Austria	6,146	52	52	0.85	66	67	1.92
3	Ghent, Belgium	6,052	179	179	2.96	88	93	4.41
4	Rio de Janeiro, Brazil	4,873	39	36	0.80	13	16	1.07
5	Montreal, Canada	16,597	323	106	1.95	65	49	2.34
6	Beijing, China	15,634	32	32	0.20	24	24	0.36
7	Bogota, Colombia	2,554	46	46	1.80	52	52	3.84
8	Havana, Cuba	1,939	24	23	1.24	32	32	2.89
9	Prague, Czech Republic	1,774	22	22	1.24	45	45	3.78
10	Helsinki, Finland	2,364	16	14	0.68	35	36	2.16
11	Paris, France	10,262	311	311	3.03	182	182	4.80
12	Cologne, Germany	17,324	155	155	0.89	209	206	2.10
13	Dresden, Germany	8,560	20	20	0.23	160	160	2.10
14	London, UK	7,952	44	44	0.55	29	29	0.92
15	Athens, Greece	4,761	39	41	0.82	41	38	1.68
16	Rome, Italy	15,041	159	150	1.06	225	223	2.55
17	Tokyo, Japan	7,384	16	16	0.22	3	3	0.26
18	Seoul, Korea	3,964	26	26	0.66	7	7	0.83
19	Penang, Malaysia	1,490	35	34	2.35	23	23	3.89
20	Oslo, Norway	4,848	37	36	0.76	56	56	1.92
21	Warsaw, Poland	3,334	38	37	1.14	70	71	3.24
22	Lisbon, Portugal	3,450	69	69	2.00	75	74	4.17
23	Bloemfontein, South Africa	3,261	30	30	0.92	19	19	1.50
24	Moscow, Russia	16,176	119	119	0.74	242	242	2.23
25	Barcelona, Spain	3,705	42	42	1.13	10	12	1.40
26	Madrid, Spain	7,132	80	80	1.12	197	197	3.88
27	Stockholm, Sweden	4,174	107	91	2.56	63	75	4.07
28	Lausanne, Switzerland	6,549	37	37	0.56	66	66	1.57
29	Bangkok, Thailand	3,029	31	31	1.02	7	9	1.25
30	Tunis, Tunisia	2,491	39	39	1.57	54	54	3.73
31	Ankara, Turkey	2,298	14	14	0.61	-	-	0.61
32	Los Angeles, USA	58,422	626	49	1.07	164	57	1.35
33	Salt Lake City, USA	13,594	143	13	1.05	63	15	1.52
34	New Delhi, India	2,451	77	77	3.14	1	1	3.18
35	Bucharest, Romania <sup>5</sup>	1,509	23	25	1.52	4	4	1.79
<b>TOTAL</b>		<b>277,928</b>	<b>3,091</b>	<b>2,137</b>	<b>1.11%</b>	<b>2,519</b>	<b>2,366</b>	<b>2.02%</b>

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

<sup>4</sup> AAFs and ATFs as compiled from ADAMS

<sup>5</sup> Bucharest, Romania laboratory obtained its accreditation in July of 2009

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories**

**Table B1**

**Olympic Sports Results per Laboratory**

Laboratory		N Samples	N <i>Adverse Analytical Findings</i> <sup>1</sup>	% <i>Adverse Analytical Findings</i> <sup>1</sup>	N <i>Atypical Findings</i> <sup>2</sup>	% Total Findings <sup>3</sup>
1	Sydney, Australia	3,830	14	0.37	65	2.06
2	Seibersdorf, Austria	5,311	28	0.53	58	1.62
3	Ghent, Belgium	4,688	88	1.88	75	3.48
4	Rio de Janeiro, Brazil	4,786	26	0.54	13	0.81
5	Montreal, Canada	11,690	228	1.95	60	2.46
6	Beijing, China	14,418	30	0.21	24	0.37
7	Bogota, Colombia	2,109	27	1.28	48	3.56
8	Havana, Cuba	1,706	15	0.88	25	2.34
9	Prague, Czech Republic	1,398	6	0.43	31	2.65
10	Helsinki, Finland	1,832	6	0.33	28	1.86
11	Paris, France	8,530	235	2.75	155	4.57
12	Cologne, Germany	14,356	108	0.75	187	2.05
13	Dresden, Germany	7,613	11	0.14	155	2.18
14	London, UK	5,668	31	0.55	14	0.79
15	Athens, Greece	4,524	38	0.84	39	1.70
16	Rome, Italy	14,114	146	1.03	207	2.50
17	Tokyo, Japan	5,495	4	0.07	2	0.11
18	Seoul, Korea	2,968	9	0.30	4	0.44
19	Penang, Malaysia	1,096	13	1.19	18	2.83
20	Oslo, Norway	3,799	17	0.45	40	1.50
21	Warsaw, Poland	2,996	18	0.60	59	2.57
22	Lisbon, Portugal	2,902	49	1.69	72	4.17
23	Bloemfontein, South Africa	2,072	20	0.97	9	1.40
24	Moscow, Russia	15,345	102	0.66	231	2.17
25	Barcelona, Spain	3,488	32	0.92	10	1.20
26	Madrid, Spain	5,979	59	0.99	170	3.83
27	Stockholm, Sweden	2,991	84	2.81	38	4.08
28	Lausanne, Switzerland	6,082	27	0.44	62	1.46
29	Bangkok, Thailand	1,266	15	1.18	3	1.42
30	Tunis, Tunisia	2,272	32	1.41	48	3.52
31	Ankara, Turkey	2,023	8	0.40	-	0.40
32	Los Angeles, USA	13,489	84	0.62	57	1.05
33	Salt Lake City, USA	3,034	11	0.36	16	0.89
34	New Delhi, India	2,035	39	1.92	1	1.97
35	Bucharest, Romania	1,124	14	1.25	-	1.25
<b>TOTAL</b>		<b>187,029</b>	<b>1,674</b>	<b>0.90%</b>	<b>2,024</b>	<b>1.98%</b>

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories**

**Table B2 Non-Olympic Sports Results per Laboratory**

Laboratory		N Samples	N <i>Adverse Analytical Findings</i> <sup>1</sup>	% <i>Adverse Analytical Findings</i> <sup>1</sup>	N <i>Atypical Findings</i> <sup>2</sup>	% Total Findings <sup>3</sup>
1	Sydney, Australia	3,004	27	0.90	64	3.03
2	Seibersdorf, Austria	835	24	2.87	8	3.83
3	Ghent, Belgium	1,364	91	6.67	13	7.62
4	Rio de Janeiro, Brazil	87	13	14.94	-	14.94
5	Montreal, Canada	4,907	95	1.94	5	2.04
6	Beijing, China	1,216	2	0.16	-	0.16
7	Bogota, Colombia	445	19	4.27	4	5.17
8	Havana, Cuba	233	9	3.86	7	6.87
9	Prague, Czech Republic	376	16	4.26	14	7.98
10	Helsinki, Finland	532	10	1.88	7	3.20
11	Paris, France	1,732	76	4.39	27	5.95
12	Cologne, Germany	2,968	47	1.58	22	2.32
13	Dresden, Germany	947	9	0.95	5	1.48
14	London, UK	2,284	13	0.57	15	1.23
15	Athens, Greece	237	1	0.42	2	1.27
16	Rome, Italy	927	13	1.40	18	3.34
17	Tokyo, Japan	1,889	12	0.64	1	0.69
18	Seoul, Korea	996	17	1.71	3	2.01
19	Penang, Malaysia	394	22	5.58	5	6.85
20	Oslo, Norway	1,049	20	1.91	16	3.43
21	Warsaw, Poland	338	20	5.92	11	9.17
22	Lisbon, Portugal	548	20	3.65	3	4.20
23	Bloemfontein, South Africa	1,189	10	0.84	10	1.68
24	Moscow, Russia	831	17	2.05	11	3.37
25	Barcelona, Spain	217	10	4.61	-	4.61
26	Madrid, Spain	1,153	21	1.82	27	4.16
27	Stockholm, Sweden	1,183	23	1.94	25	4.06
28	Lausanne, Switzerland	467	10	2.14	4	3.00
29	Bangkok, Thailand	1,763	16	0.91	4	1.13
30	Tunis, Tunisia	219	7	3.20	6	5.94
31	Ankara, Turkey	275	6	2.18	-	2.18
32	Los Angeles, USA	44,933	542	1.21	107	1.44
33	Salt Lake City, USA	10,560	132	1.25	47	1.70
34	New Delhi, India	416	38	9.13	-	9.13
35	Bucharest, Romania <sup>3</sup>	385	9	2.34	4	3.38
TOTAL		90,899	1,417	1.56%	495	2.10%

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

## 2009 Adverse Analytical Findings and Atypical Findings Reported by Accredited Laboratories

Table C

Olympic Sport Sample Analysis

Sport	Total Samples per Sport	A Sample Adverse Analytical Findings <sup>1</sup>	A Sample Atypical Findings <sup>2</sup>	A Sample Total Findings <sup>3</sup>	% Adverse Analytical Findings <sup>1</sup>
Aquatics	13,995	91	65	156	0.65%
Archery	975	14	4	18	1.44%
Athletics	26,593	170	228	398	0.64%
Badminton	1,175	2	6	8	0.17%
Basketball	11,150	222	119	341	1.99%
Biathlon	2,148	6	21	27	0.28%
Bobsleigh	1,440	2	17	19	0.14%
Boxing	3,231	53	32	85	1.64%
Canoe / Kayak	3,821	23	49	72	0.60%
Curling	467	2	12	14	0.43%
Cycling	21,835	318	406	724	1.46%
Equestrian	462	10	2	12	2.16%
Fencing	1,918	8	20	28	0.42%
Football	32,526	163	406	569	0.50%
Gymnastics	2,462	18	19	37	0.73%
Handball	3,650	31	43	74	0.85%
Hockey	2,118	26	19	45	1.23%
Ice Hockey	6,065	77	74	151	1.27%
Judo	4,068	25	30	55	0.61%
Luge	588	3	6	9	0.51%
Modern Pentathlon	548	2	6	8	0.36%
Rowing	4,592	13	44	57	0.28%
Sailing	856	7	11	18	0.82%
Shooting	2,630	24	13	37	0.91%
Skating	4,346	14	33	47	0.32%
Skiing	5,742	35	49	84	0.61%
Table Tennis	1,066	10	4	14	0.94%
Taekwondo	1,679	7	18	25	0.42%
Tennis	3,945	17	37	54	0.43%
Triathlon	3,262	33	69	102	1.01%
Volleyball	5,121	41	48	89	0.80%
Weightlifting	7,534	158	67	225	2.10%
Wrestling	4,894	47	46	93	0.96%
Ice Sport <sup>4</sup>	84	1	1	2	1.19%
Hockey/Skating <sup>4</sup>	43	1	0	1	2.33%
<b>Total</b>	<b>187,029</b>	<b>1,674</b>	<b>2,024</b>	<b>3,698</b>	<b>0.90%</b>

<sup>1</sup> The Adverse Analytical Findings (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The Atypical Findings (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). Atypical Findings may correspond to multiple measurements performed on the same Athlete, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes Adverse Analytical Findings and Atypical Findings

<sup>4</sup> "Ice Sport"/"Hockey/Skating" was designated on Doping Control Form and therefore unable to assign by single sport or federation.



## 2009 Adverse Analytical Findings and Atypical Findings Reported by Accredited Laboratories

**Table D1**

*Sample Analysis in IOC recognized Sports*

Sport	Total per Sport	Adverse Analytical Findings <sup>1</sup>	Atypical Findings <sup>2</sup>	A Sample Total Findings <sup>3</sup>	% Adverse Analytical Findings <sup>1</sup>
Air Sports	130	1	1	2	0.77%
Bandy	160	1	1	2	0.63%
Baseball	19,560	490	51	541	2.51%
Baseball/Softball <sup>4</sup>	255	11	1	12	4.31%
Billiard Sports	402	14	-	14	3.48%
Boules	155	2	-	2	1.29%
Bowling	437	6	1	7	1.37%
Bridge	28	2	-	2	7.14%
Chess	111	1	-	1	0.90%
Cricket	804	3	-	3	0.37%
Dance Sport	392	1	1	2	0.26%
Floorball	632	3	14	17	0.47%
Golf	1,530	33	7	40	2.16%
Karate	1,154	12	13	25	1.04%
Korfball	106	-	-	-	0.00%
Life Saving	335	2	1	3	0.60%
Motorcycle Racing	380	14	7	21	3.68%
Mountaineering and Climbing	311	3	6	9	0.96%
Netball	257	1	-	1	0.39%
Orienteering	434	2	4	6	0.46%
Pelote Basque	163	-	1	1	0.00%
Polo	6	1	-	1	16.67%
Powerboating	206	5	1	6	2.43%
Racquetball	18	-	-	-	0.00%
Rollersports	705	9	8	17	1.28%
Rugby <sup>5</sup>	5,725	39	69	108	0.68%
Softball	1,080	7	1	8	0.65%
Sport Climbing	108	-	2	2	0.00%
Squash	400	4	4	8	1.00%
Sumo	116	3	2	5	2.59%
Surfing	76	6	-	6	7.89%
Tug of War	106	2	2	4	1.89%
Underwater Sports	395	8	4	12	2.03%
Water Skiing	211	2	2	4	0.95%
Wushu	453	2	-	2	0.44%
<b>TOTAL</b>	<b>37,341</b>	<b>690</b>	<b>204</b>	<b>894</b>	<b>1.85%</b>

**Table D2**

*Sample Analysis in Paralympic Sports*

Sport	Total per Sport	Adverse Analytical Findings <sup>1</sup>	Atypical Findings <sup>2</sup>	A Sample Total Findings <sup>*</sup>	% Adverse Analytical Findings <sup>1</sup>
Paralympic Sports	820	11	7	18	1.34%

<sup>1</sup> The **Adverse Analytical Findings (AAF)** in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The **Atypical Findings (ATF)** in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*

<sup>4</sup> "Baseball/Softball" was designated on Doping Control Form and therefore unable to assign by single sport or federation.

<sup>5</sup> Includes *Samples* noted as "Rugby" and "Rugby Union".

## 2009 Adverse Analytical Findings and Atypical Findings Reported by Accredited Laboratories

**Table D3**

*Sample Analysis in other Sports*

Sport	Total per Sport	Adverse Analytical Findings <sup>1</sup>	Atypical Findings <sup>2</sup>	A Sample Total Findings <sup>3</sup>	% Adverse Analytical Findings <sup>1</sup>
Aikido	4	-	-	-	0.00%
American Football	42,171	325	185	510	0.77%
Bodybuilding and Fitness	1,400	230	42	272	16.43%
Casting	14	3	3	6	21.43%
Darts	29	-	4	4	0.00%
Dragon Boat	80	-	-	-	0.00%
Draughts	8	-	-	-	0.00%
Fistball	10	-	-	-	0.00%
Flying Disc	34	-	1	1	0.00%
Go	-	-	-	-	0.00%
Ju-Jitsu	100	-	1	1	0.00%
Kendo	27	1	-	1	3.70%
Kickboxing	431	19	2	21	4.41%
Minigolf	80	1	-	1	1.25%
Muay Thai	172	4	2	6	2.33%
Powerlifting	2,279	86	28	114	3.77%
Sambo	43	1	-	1	2.33%
Sepak Takraw	98	1	-	1	1.02%
Sleddog	4	-	-	-	0.00%
Soft Tennis	49	-	-	-	0.00%
Sports Fishing	21	-	-	-	0.00%
<b>TOTAL</b>	<b>47,054</b>	<b>671</b>	<b>268</b>	<b>939</b>	<b>1.43%</b>

<sup>1</sup> The *Adverse Analytical Findings* (AAF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). These figures may not be identical to sanctioned cases, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process.

<sup>2</sup> The *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV). *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in cases of longitudinal studies on testosterone.

<sup>3</sup> Includes *Adverse Analytical Findings* and *Atypical Findings*



**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories in ADAMS**

**Table E**      Number of Prohibited Substances Identified in Each Drug Class  
(All Sports)

Substance Group	Number*	% of all reported findings*
S1. Anabolic Agents	3,297	64.9%
S8. Cannabinoids	399	7.8%
S6. Stimulants	325	6.4%
S3. Beta-2 Agonists	303	6.0%
S5. Diuretics and Other Masking Agents	273	5.4%
S9. Glucocorticosteroids	265	5.2%
S2. Hormones and Related Substances	100	2.0%
S4. Hormone Antagonists and Modulators	50	1.0%
P2. Beta-Blockers	38	0.7%
S7. Narcotics	24	0.5%
M2. Chemical and Physical Manipulation	5	0.1%
P2. Alcohol	5	0.1%
M1. Enhancement of Oxygen Transfer	-	0.0%
<b>TOTAL</b>	<b>5,084</b>	

\* The *Adverse Analytical Findings* (AAF) and *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV), as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process or multiple findings on the same *Athlete*. In addition, *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in the case of longitudinal studies on testosterone.

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories in ADAMS**

**Table F** Substances Identified in Each Drug Class (All Sports)

<b>S1.1.a. Anabolic Agents - Exogenous AAS</b>	<b>Occurrences</b>	<b>% within drug class</b>
Stanozolol	208	6.3%
Nandrolone	155	4.7%
Methandienone	110	3.3%
Metenolone	44	1.3%
Boldenone	43	1.3%
Mesterolone	27	0.8%
Drostanolone	24	0.7%
Methyltestosterone	17	0.5%
Dehydrochloromethyltestosterone	13	0.4%
Oxandrolone	11	0.3%
Trenbolone	10	0.3%
Oxymetholone	6	0.2%
Methasterone	3	0.1%
Boldione	3	0.1%
Methyltrienolone	1	0.03%
Mestanolone	1	0.03%
Clostebol	1	0.03%
1-androstenedione	1	0.03%
1-testosterone	1	0.03%
19-norandrostenedione	1	0.03%
Fluoxymesterone	1	0.03%
<b>subtotal*</b>	<b>681</b>	

<b>S1.1.b. Anabolic Agents - Endogenous AAS<sup>1</sup></b>	<b>Occurrences</b>	<b>% within drug class</b>
Testosterone (TE ratio)	2,319	70.3%
Prasterone (DHEA)	85	2.6%
Exogenous Steroid(s) by IRMS	79	2.4%
Nandrolone metabolite(s)	41	1.2%
Androsterone	11	0.3%
Epitestosterone	8	0.2%
Etiocholanolone	5	0.2%
Dihydrotestosterone	1	0.03%
<b>subtotal*</b>	<b>2,549</b>	

<b>S.1.2 Other Anabolic Agents</b>	<b>Occurrences</b>	<b>% within drug class</b>
Clenbuterol	67	2.0%
<b>subtotal*</b>	<b>67</b>	

<b>S.1. All Anabolic Agents</b>	<b>Occurrences</b>
<b>TOTAL*</b>	<b>3,297</b>

<sup>1</sup> Reporting of an Endogenous AAS may be due to detection of a concentration outside normal reference ranges and/or establishment of an exogenous source by GC/C/IRMS.

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories in ADAMS**

**Table F**

(cont'd)

**Substances Identified in Each Drug Class (All Sports)**

<b>S2. Hormones and Related Substances</b>	<b>Occurrences</b>	<b>% within drug class</b>
Erythropoetin (EPO)	56	56.0%
Gonadotrophins (hCG)	25	25.0%
Mircera (CERA)	8	8.0%
Gonadotrophins (LH)	6	6.0%
Erythropoetin (Darbepoetin)	4	4.0%
Growth Hormone (hGH)	1	1.0%
<b>TOTAL *</b>	<b>100</b>	

<b>S3. Beta-2 Agonists</b>	<b>Occurrences</b>	<b>% within drug class</b>
Terbutaline	157	51.8%
Formoterol	84	27.7%
Salbutamol	29	9.6%
Salmeterol	23	7.6%
Fenoterol	5	1.7%
Reproterol	3	1.0%
Ritodrine	1	0.3%
Pirbuterol	1	0.3%
<b>TOTAL *</b>	<b>303</b>	

<b>S4. Hormone Antagonists and Modulators</b>	<b>Occurrences</b>	<b>% within drug class</b>
Tamoxifen	19	38.0%
Anastrozole	10	20.0%
Clomiphene	6	12.0%
Letrozole	5	10.0%
Formestane	4	8.0%
Exemestane	2	4.0%
6-oxo-androstenedione	2	4.0%
Androst-1,4,6-triene-3,17-dione (ATD)	1	2.0%
Aminoglutethimide	1	2.0%
<b>TOTAL *</b>	<b>50</b>	

<b>S5. Diuretics and Other Masking Agents</b>	<b>Occurrences</b>	<b>% within drug class</b>
Furosemide	92	33.7%
Hydrochlorothiazide	90	33.0%
Canrenone	21	7.7%
Indapamide	14	5.1%
Chlorothiazide	12	4.4%
Triamterene	10	3.7%
Amiloride	8	2.9%
Acetazolamide	8	2.9%
Probenecid	7	2.6%
Althiazide	3	1.1%
Torsemide	2	0.7%
Dorzolamide	1	0.4%
Bumetanide	1	0.4%
Spironolactone	1	0.4%
Hydroxyethyl starch (HES)	1	0.4%
Bendroflumethiazide	1	0.4%
Thiazide	1	0.4%
<b>TOTAL *</b>	<b>273</b>	

\* The Adverse Analytical Findings (AAF) and Atypical Findings (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV), as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process or multiple findings on the same *Athlete*. In addition, Atypical Findings may correspond to multiple measurements performed on the same *Athlete*, such as in the case of longitudinal studies on testosterone.

**2009 Adverse Analytical Findings and Atypical Findings  
Reported by Accredited Laboratories in ADAMS**

**Table F**

(cont'd)

**Substances Identified in Each Drug Class  
(All Sports)**

<b>S6. Stimulants</b>	<b>Occurrences</b>	<b>% within drug class</b>
Cocaine	60	18.5%
Ephedrine	44	13.5%
Methylphenidate	31	9.5%
Methylhexanamine (dimethylpentylamine)	31	9.5%
Amphetamine	27	8.3%
Cathine	15	4.6%
Sibutramine	11	3.4%
Mephentermine	11	3.4%
Isometheptene	9	2.8%
Methamphetamine (D-)	9	2.8%
4-phenylpiracetam (carphedon)	8	2.5%
Modafinil	8	2.5%
D-Amphetamine	8	2.5%
Heptaminol	8	2.5%
Oxilofrine	6	1.8%
Phentermine	6	1.8%
Parahydroxyamphetamine	4	1.2%
Nikethamide	4	1.2%
Fenproporex	3	0.9%
Levmetamphetamine	3	0.9%
Norfenfluramine	2	0.6%
Fenetylline	2	0.6%
Octopamine	2	0.6%
Phenmetrazine	2	0.6%
Methylenedioxymethamphetamine	1	0.3%
Tuaminoheptane	1	0.3%
Methylephedrine	1	0.3%
Strychnine	1	0.3%
Pholedrine	1	0.3%
Pemoline	1	0.3%
Amfrepamone	1	0.3%
Bromantan	1	0.3%
Methylenedioxyamphetamine	1	0.3%
Benzylpiperazine	1	0.3%
other	1	0.3%
<b>TOTAL *</b>	<b>325</b>	

<b>S7. Narcotics</b>	<b>Occurrences</b>	<b>% within drug class</b>
Morphine	17	70.8%
Oxycodone	4	16.7%
Methadone	1	4.2%
Hydromorphone	1	4.2%
Buprenorphine	1	4.2%
<b>TOTAL *</b>	<b>24</b>	

\* The Adverse Analytical Findings (AAF) and Atypical Findings (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV), as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process or multiple findings on the same *Athlete*. In addition, *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in the case of longitudinal studies on testosterone.

2009 *Adverse Analytical Findings and Atypical Findings*  
Reported by Accredited Laboratories in ADAMS

**Table F**

(cont'd)

Substances Identified in Each Drug Class  
(All Sports)

S8. Cannabinoids	Occurences	% within drug class
Cannabinoids	399	100.0%
<b>TOTAL *</b>	<b>399</b>	

S9. Glucocorticosteroids	Occurences	% within drug class
Budesonide	120	45.3%
Prednisolone + Prednisone	41	15.5%
Betamethasone	39	14.7%
Dexamethasone	17	6.4%
Prednisolone	16	6.0%
Triamcinolone	12	4.5%
Methylprednisolone	9	3.4%
Desonide	6	2.3%
Prednisone	3	1.1%
Triamcinolone Acetonide	1	0.4%
16a-hydroxyprednisolone	1	0.4%
<b>TOTAL *</b>	<b>265</b>	

P1. Alcohol	Occurences	% within drug class
Alcohol	5	100.0%
<b>TOTAL *</b>	<b>5</b>	

P2. Beta-Blockers	Occurences	% within drug class
Propanolol	11	28.9%
Metoprolol	10	26.3%
Atenolol	8	21.1%
Bisoprolol	7	18.4%
Carvedilol	1	2.6%
Carteolol	1	2.6%
<b>TOTAL *</b>	<b>38</b>	

M2. Chemical and Physical Manipulation	Occurences	% within drug class
Manipulation	5	100.0%
<b>TOTAL *</b>	<b>5</b>	

\* The *Adverse Analytical Findings (AAF)* and *Atypical Findings (ATF)* in this report are not to be confused with adjudicated or sanctioned *Anti-Doping Rule Violations (ADRV)*, as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process or multiple findings on the same *Athlete*. In addition, *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in the case of longitudinal studies on testosterone.

# 2009 Adverse Analytical Findings and Atypical Findings Reported by Accredited Laboratories in ADAMS

**Table G**
**Total Laboratory Adverse Analytical Findings\* and Atypical Findings\* per Drug Class (All Sports)**

Laboratory	S1. Anabolic Agents	S2. Hormones and Related Substances	S3. Beta-2 Agonists	S4. Hormone Antagonists and Modulators	S5. Diuretics and Other Masking Agents	S6. Stimulants	S7. Narcotics	S8. Canna- binoids	S9. Glucocortico- steroids	P1. Alcohol	P2. Beta- Blockers	M2. Chemical and Physical Manipulation	Total Findings per Lab	% of total Findings
Sydney, Australia	138	1	8	2	5	6	-	12	1	-	-	-	173	3.4%
Seibersdorf, Austria	90	4	7	2	14	5	-	8	-	-	4	1	135	2.7%
Ghent, Belgium	183	2	51	3	25	35	1	44	8	-	2	-	354	7.0%
Rio de Janeiro, Brazil	29	0	-	1	5	15	-	5	4	-	1	-	60	1.2%
Montreal, Canada	92	7	6	12	14	15	-	26	27	-	3	-	202	4.0%
Beijing, China	41	6	5	-	3	1	-	-	2	-	1	-	59	1.2%
Bogota, Colombia	101	2	1	2	9	4	-	8	9	-	-	-	136	2.7%
Havana, Cuba	47	-	-	-	2	2	-	2	3	-	-	-	56	1.1%
Prague, Czech Republic	93	0	-	1	8	3	-	4	1	-	-	-	110	2.2%
Helsinki, Finland	48	-	1	2	3	1	-	3	-	-	-	-	58	1.1%
Paris, France	206	27	56	3	24	22	-	94	86	-	5	-	523	10.3%
Cologne, Germany	314	2	9	2	14	11	2	20	5	-	5	4	388	7.6%
Dresden, Germany	164	3	4	1	5	2	-	5	1	-	-	-	185	3.6%
London, UK	40	1	4	-	1	18	-	8	3	-	-	-	75	1.5%
Athens, Greece	53	-	-	-	2	17	-	7	1	-	1	-	81	1.6%
Rome, Italy	234	13	61	2	11	29	5	24	26	-	2	-	407	8.0%
Tokyo, Japan	10	1	2	2	4	1	-	2	1	-	1	-	24	0.5%
Seoul, Korea	21	2	-	-	8	2	-	1	2	-	-	-	36	0.7%
Penang, Malaysia	44	-	1	-	1	4	4	2	1	-	-	-	57	1.1%
Oslo, Norway	65	4	2	2	5	8	-	7	2	5	-	-	100	2.0%
Warsaw, Poland	104	-	2	4	4	5	-	15	2	-	-	-	136	2.7%
Lisbon, Portugal	79	2	4	-	12	11	3	25	10	-	5	-	151	3.0%
Bloemfontein, S Africa	37	1	-	-	3	6	-	5	1	-	-	-	53	1.0%
Moscow, Russia	348	10	-	-	34	16	1	7	3	-	2	-	421	8.3%
Barcelona, Spain	23	1	11	1	7	5	1	8	6	-	1	-	64	1.3%
Madrid, Spain	207	3	18	-	3	26	-	21	8	-	-	-	286	5.6%
Stockholm, Sweden	98	-	39	1	2	6	1	2	32	-	-	-	181	3.6%
Lausanne, Switzerland	52	4	-	-	1	9	3	10	3	-	2	-	84	1.7%
Bangkok, Thailand	31	-	-	-	5	13	1	2	4	-	3	-	59	1.2%
Tunis, Tunisia	110	-	-	-	3	5	-	6	2	-	-	-	126	2.5%
Ankara, Turkey	8	-	-	-	3	1	-	3	1	-	-	-	16	0.3%
Los Angeles, USA	67	4	11	5	6	10	2	4	6	-	-	-	115	2.3%
Salt Lake City, USA	19	0	-	1	2	1	-	5	3	-	-	-	31	0.6%
New Delhi, India	77	-	-	1	23	9	-	-	-	-	-	-	110	2.2%
Bucharest, Romania	24	-	-	-	2	1	-	4	1	-	-	-	32	0.6%
<b>TOTAL PER DRUG CLASS</b>	<b>3,297</b>	<b>100</b>	<b>303</b>	<b>50</b>	<b>273</b>	<b>325</b>	<b>24</b>	<b>399</b>	<b>265</b>	<b>5</b>	<b>38</b>	<b>5</b>	<b>5,084</b>	
<b>% of Drug Class</b>	<b>64.9%</b>	<b>2.0%</b>	<b>6.0%</b>	<b>1.0%</b>	<b>5.4%</b>	<b>6.4%</b>	<b>0.5%</b>	<b>7.8%</b>	<b>5.2%</b>	<b>0.1%</b>	<b>0.7%</b>	<b>0.1%</b>		

\* The *Adverse Analytical Findings* (AAF) and *Atypical Findings* (ATF) in this report are not to be confused with adjudicated or sanctioned Anti-Doping Rule Violations (ADRV), as the figures given in this report may contain findings that underwent the Therapeutic Use Exemption (TUE) approval process or multiple findings on the same *Athlete*. In addition, *Atypical Findings* may correspond to multiple measurements performed on the same *Athlete*, such as in the case of longitudinal studies on testosterone.

**2009 Athlete Biological Passport**

**Blood Samples Analyzed and Reported by Accredited Laboratories in ADAMS**

**Table I** Total Samples Analyzed per Laboratory  
(All Sports)

Laboratory		N Samples
1	<b>Sydney</b> , Australia	-
2	<b>Seibersdorf</b> , Austria	70
3	<b>Ghent</b> , Belgium	816
4	<b>Rio de Janeiro</b> , Brazil	-
5	<b>Montreal</b> , Canada	71
6	<b>Beijing</b> , China	-
7	<b>Bogota</b> , Colombia	-
8	<b>Havana</b> , Cuba	-
9	<b>Prague</b> , Czech Republic	-
10	<b>Helsinki</b> , Finland	-
11	<b>Paris</b> , France	-
12	<b>Cologne</b> , Germany	1,739
13	<b>Dresden</b> , Germany	6
14	<b>London</b> , UK	-
15	<b>Athens</b> , Greece	-
16	<b>Rome</b> , Italy	59
17	<b>Tokyo</b> , Japan	-
18	<b>Seoul</b> , Korea	-
19	<b>Penang</b> , Malaysia	-
20	<b>Oslo</b> , Norway	-
21	<b>Warsaw</b> , Poland	-
22	<b>Lisbon</b> , Portugal	-
23	<b>Bloemfontein</b> , South Africa	-
24	<b>Moscow</b> , Russia	-
25	<b>Barcelona</b> , Spain	-
26	<b>Madrid</b> , Spain	423
27	<b>Stockholm</b> , Sweden	-
28	<b>Lausanne</b> , Switzerland	2,589
29	<b>Bangkok</b> , Thailand	-
30	<b>Tunis</b> , Tunisia	-
31	<b>Ankara</b> , Turkey	-
32	<b>Los Angeles</b> , USA	-
33	<b>Salt Lake City</b> , USA	309
34	<b>New Delhi</b> , India	-
35	<b>Bucharest</b> , Romania	-
<b>TOTAL</b>		<b>6,082</b>