# WADA & PCC funded Reference Materials Catalogue

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|  | **NMI reference** | | **Unit of issue (mg)** | **Cost (A$)** | |
| --- | --- | --- | --- | --- | --- |
| **Domestic (excl GST)** | **International** |
| **STEROIDS AND STEROID METABOLITE** | | | | | |
| **1-Androstendione** | | | | | |
| 1-Androstendione (5α-Androst-1-en-3,17-dione) \* | D845 | 1 | | 207 | 290 |
| **Danazol metabolites** | | | | | |
| 2-Hydroxymethylethisterone **†** | D920b | 1 | | 110 | 154 |
| **Finasteride metabolite*s*** | | | | | |
| Carboxy finasteride **†** | S045 | 1 | | 110 | 154 |
| **4-Hydroxy steroids** | | | | | |
| 4-Hydroxy-estr-4-en-3,17-dione **†** | S043 | 1 (ampoule) | | 110 | 154 |
| **17-Methylclostebol metabolite** | | | | | |
| 4-Chloro-17-methyl-androst-4-ene-3, 17-diol **†** | S044 | 1 (ampoule) | | 110 | 154 |
| **Methyldienolone** | | | | | |
| Methyldienolone † | D916b | 1 (ampoule) | | 110 | 154 |
| **7-Methylnandrolone and metabolites** | | | | | |
| 7-Methylnandrolone \* | S048 | 1 (ampoule) | | 110 | 154 |
| 7-Methyl-5-estran-3-ol-17-one (major metabolite) \* | S047 | 1 (ampoule) | | 110 | 154 |
| 7-Methyl-estr-4-ene-3-ol-17-one (minor metabolite) \* | S050 | 1 (ampoule) | | 110 | 154 |
| **Nandrolone metabolites** | | | | | |
| 19-Noretiocholanolone sulfate (Na salt)\* | D849 | 1 | | 110 | 154 |
| Epinandrolone sulfate**†** TEA salt | D783b | 5 | | 110 | 154 |
| **Norbolethone and metabolites** | | | | | |
| Norbolethone**†**  (13β,17-Diethyl-gonan-4-ene-17-ol-3-one) | D825c | 1 (ampoule) | | 110 | 110 |
| 13β,17-Diethyl-5-gonane-3, 17-diol  (major metabolite) **†** | D818b | 1 (ampoule) | | 110 | 154 |
| 13β,17-Diethyl-5-gonane-3, 17-diol  (minor metabolite) **†** | D820b | 1 (ampoule) | | 110 | 154 |
| **Testosterone metabolites (including internal standards)** | | | | | |
| 5-Androstane-3α,17β-diol-3--glucuronic acid **†** | S003b | 1 | | 110 | 154 |
| d4-5-Androstan-3,17-diol-17-*O*--glucuronic acid \* | S009 | 1 | | 110 | 154 |
| d4-5-Androstan-3,17-diol-3-*O*--glucuronic acid \* | S010 | 1 | | 110 | 154 |
| d3-5-Androstan-3,17-diol-17-*O*--glucuronic acid \* | S011 | 1 | | 110 | 154 |
| d5-5-Androstan-3,17-diol-3-*O*--glucuronic acid \* | S012 | 1 | | 110 | 154 |
| d4-Epitestosterone-17-*O*--glucuronic acid \* | S023 | 1 | | 110 | 154 |
| d5-Etiocholanolone-3-*O*--glucuronide sodium salt \* | S020 | 1 | | 110 | 154 |
| **1-Testosterone\*** | | | | | |
| 5α-Androst-1-ene-3-ol-17-one\* (Ampouled) | D832 | 0.2 | | 110 | 154 |
| **Oral Turinabol metabolite** | | | | | |
| 6β-Hydroxy-oral turinabol **†** | D615b | 1 (ampoule) | | 110 | 154 |
| **Prohormones and metabolites** | | | | | |
| 3,5-Cyclo-5-androstan-6-ol-17-one **†** | S039 | 1 (ampoule) | | 110 | 154 |
| 16α-Hydroxyandrosterone \* | D843 | 1 (ampoule) | | 110 | 154 |
| 6-Hydroxyetiocholanolone \* | D867 | 1 | | 110 | 154 |
| 4-Hydroxy DHEA \* | D834 | 1 (ampoule) | | 110 | 154 |
| 7-Keto DHEA \* | D833 | 10 | | 110 | 154 |
| 7-Hydroxy DHEA \* | D875 | 1 | | 110 | 154 |
| 7-Hydroxy DHEA \* | D865b | 1 | | 110 | 154 |
| 16-Hydroxy DHEA \* | D844 | 1 | | 110 | 154 |
| 3-Hydroxy-4-estren-17-one \* | D873 | 1 | | 110 | 154 |
| 3-Hydroxy-4-estren-17-one \* | D866 | 1 | | 110 | 154 |
| **Anti-inflammatory metabolites** | | | | | |
| -Hydroxycarprofen† | D1072 | 5 | | 110 | 154 |
| **REV-ERB agonist SR9009 metabolites** | | | | | |
| *N*-[(4-Chlorophenyl)methyl]-5-nitro-2-thiophenemethanamine hydrochloride**†** | D1066 | 1 (ampoule) | | 110 | 154 |
| Ethyl *N*-(5-nitro-2-methylthiophene)-3-aminomethylpyrrolidine-1-carboxylate**†** | D1067 | 1 (ampoule) | | 110 | 154 |
| **Stimulants** |  |  | |  |  |
| Formoterol fumarate**†** | D1065 | 25 | | 110 | 154 |
| Higenamine hydrochloride† | D1070 | 25 | | 110 | 154 |
| **STEROIDS AND STEROID METABOLITES** | | | | | |
| **Steroid carbon isotope ratio standard mixture reference material for GCC-IRMS** | | | | | |
| Carbon isotope delta value reported for 5-androstan-3-ol acetate (13CVPDB / ‰ -32.00 ± 0.09), 5-androstan-3-ol-17-one acetate (13CVPDB / ‰ -32.58 ± 0.03), 5-androstan-3-ol-11,17-dione acetate (13CVPDB / ‰ -16.50 ± 0.03), and 5-cholestane (13CVPDB / ‰ -24.90 ± 0.05) **†** | CU-PCC 33-2 | Ampoule | | 110 | 154 |
| Carbon isotope delta value reported for 5-androstan-3-ol-17-one (13CVPDB / ‰ -28.75 ± 0.01), 5-androstan-3-ol-17-one (13CVPDB / ‰ -26.74 ± 0.03), 5-pregnan-3, 20-diol (13CVPDB / ‰ -18.65 ± 0.03) **†** | CU-PCC 34-3 | Ampoule | | 110 | 154 |
| Carbon isotope delta value reported for 5-androstan-3-ol-17-one (13CVPDB / ‰ -27.09 ± 0.07) **†** | CU-PCC 40-1 | Ampoule | | 110 | 154 |
| Carbon isotope delta value reported for 5-androstan-3-ol-17-one acetate (13CVPDB / ‰ -32.82 ± 0.02) **†** | CU-PCC 41-1 | Ampoule | | 110 | 154 |
| Carbon isotope delta value reported for 5-cholestane (13CVPDB / ‰ -25.03 ± 0.01) **†** | CU-PCC 42-1 | Ampoule | | 110 | 154 |
| Carbon isotope delta value reported for 5-androstan-3-ol-17-one acetate (13CVPDB / ‰ -32.73 ± 0.06), 5-androstan-3, 17-diacetate (13CVPDB / ‰ -30.19 ± 0.07), 5-cholestane (13CVPDB / ‰ -24.83 ± 0.13), and 5- pregnan-3, 20-diacetate (13CVPDB / ‰ -21.16 ± 0.08) **†** | CU-PCC 44-1 | Ampoule | | 110 | 154 |
| **Steroid Matrix Reference Material** | | | | | |
| Mass fraction of 19-Norandrosterone (221.4 ng/g) in 1,2-dimethoxyethane (1 mL) \* | MX003 | Ampoule | | 165 | 242 |
| Carbon Isotope Delta Value (13CVPDB / ‰) of 19-norandrosterone (-29.7 ± 0.8) in  Water containing 20% Methanol 1 (mL)\* | MX016 | Ampoule | | 240 | 336 |
| Mass fraction of testosterone metabolites in freeze dried human urine: 5α-androstane-3α-17β-diol (41.2 ± 1.8 ng/g), 5β‑androstane-3α-17β-diol (66.0 ± 2.9 ng/g), androsterone 1652 ± 29 ng/g), etiocholanolone (1359 ± 34 ng/g), testosterone (88.1 ± 4.2 ng/g), epitestosterone (21.9 ± 1.0 ng/g), T/E mass ratio (4.03 ± 0.26)\* | MX017i | | Bottle | 360 | 504 |
| Carbon Isotope Delta Value (13CVPDB / ‰) in freeze dried human urine: 19-norandrosterone (-29.82 ± 0.41) \*, Etiocholanolone (-23.60 ± 0.51), Androsterone (-22.27 ± 0.57), Testosterone (-27.48 ± 0.73), Epitestosterone (-23.74 ± 0.80), 5α-androstane-3α,17β-diol (-23.83 ± 0.90), 5β-androstane-3α,17β-diol (-23.76 ± 0.61), 11-oxoetiocholanolone (-22.23 ± 0.48), 11β-hydroxyandrosterone (-22.38 ± 0.64), Pregnanediol (-22.79 ± 0.77), 16-androstenol (-22.51 ± 0.60 | MX017ii | |
| Carbon Isotope Delta Value (13CVPDB / ‰). Three ampoules containing dry steroid mixtures. The ampoules contain approximately 400 µg of each steroid with the exception of 16-androstenol supplied close to 280 µg.  **Vial 1:** etiocholanolone (-27.94 ± 0.24), androsterone (-27.79 ± 0.21),  11-oxoetiocholanolone (-13.58 ± 0.23), testosterone (-27.87 ± 0.24),  11β-hydroxyetiocholanolone -29.51 ± 0.36) **Vial 2:** 5β-androstane-3α-17β-diol (-29.86 ± 0.16), 5α androstane-3α-17β-diol (-31.14 ± 0.24), pregnanediol (-16.79 ± 0.42),  epitestosterone (-30.17 ± 0.36),  11β-hydroxyandrosterone (-28.59 ± 0.22) **Vial 3:** 16-androstenol (-30.96 ± 0.37), dehydroepiandrosterone (-31.63 ± 0.54), testosterone (-22.52 ± 0.33) **†** | MX018 | | 3 Ampoules | 240 | 336 |
| Carbon Isotope Delta Value (13CVPDB / ‰):  Boldenone (–30.38 ± 0.29)  Boldenone\* Metabolite 1 (–30.38 ± 0.29) \* | MX020 | | Ampoule | 240 | 336 |
| Carbon Isotope Delta Value (13CVPDB / ‰):  Formestane (–30.71 ± 0.48)\* | MX021 | | Ampoule | 240 | 336 |

\*Production funded by the World Anti-Doping Agency.

**†**Production funded by the Partnership for Clean Competition.

## NOTES

## Restrictions on Issue

Production of these materials is funded by the World Anti-Doping Agency. These materials are only available to WADA accredited laboratories, or to laboratories which have entered the WADA accreditation process. Non-WADA-accredited laboratories who wish to purchase these materials must seek approval from WADA and provide evidence of the approval to NMI.

## Classes of Reference Materials available from NMI

### 2.1 NMI Reference Materials

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## For further information

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