



Australian Government
Department of Industry,
Science and Resources

**National
Measurement
Institute**



Clinical and Medical Laboratory Testing Catalogue December 2023

Quality reference materials for identification and calibration are essential to making accurate chemical measurements in clinical testing.

Category	Description	NMI reference	Unit of issue (mg)	Domestic Cost (A\$) (excl GST)	International Cost (A\$)
Testosterone and metabolites	Testosterone	M914c	10	121	169
Testosterone and metabolites	Testosterone glucuronic acid	D507d	1 (ampoule)	155	218
Testosterone and metabolites	Testosterone sulfate (Et ₃ N salt)	D508	1 (ampoule)	121	169
Testosterone and metabolites	Epitestosterone	D547b	1 (ampoule)	121	169
Testosterone and metabolites	Epitestosterone glucuronide (Na salt)	S035	1	121	169
Testosterone and metabolites	Epitestosterone sulfate	D605	1	121	169
Testosterone and metabolites	5 α -Dihydrotestosterone	D680	10	121	169
Testosterone and metabolites	5 α -Dihydrotestosterone glucuronide free acid	S006	1	155	218
Testosterone and metabolites	5 α -Dihydrotestosterone sulfate	D609	1	121	169
Testosterone and metabolites	Androsterone	D550d	1	121	169
Testosterone and metabolites	Androsterone glucuronide	D572b	1	155	218
Testosterone and metabolites	Androsterone sulfate (Na ⁺ salt)	D610b	1	121	169
Testosterone and metabolites	Etiocholanolone	D551c	1 (ampoule)	121	169
Testosterone and metabolites	Etiocholanolone glucuronide (Na ⁺ salt)	D607	1	155	218
Testosterone and metabolites	Etiocholanolone glucuronide (Na ⁺ salt)	D607b	1	110	154
Testosterone and metabolites	Etiocholanolone sulfate	D608	1 (ampoule)	121	169
Testosterone and metabolites	5 α -Androstane-3 α ,17 β -diol	D634b	1	121	169
Testosterone and metabolites	5 α -Androstane-3 α ,17 β -diol-17- β -glucuronic acid	S002	1	121	169
Testosterone and metabolites	5 α -Androstane-3 α ,17 β -diol-3- β -glucuronic acid	S004	Exhausted		
Testosterone and metabolites	5 α -Androstane-3 β ,17 β -diol	D635	1	155	218

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Testosterone and metabolites	5β-Androstane-3α,17β-diol	D636	1	121	169
Testosterone and metabolites	5β-Androstane-3α,17β-diol-17-β-glucuronic acid	S005	Exhausted		
Testosterone and metabolites	5β-Androstane-3α,17β-diol-3-β-glucuronic acid	S003c	1	188	264
Testosterone and metabolites	5β-Androstane-3β,17β-diol	D637	1	155	218
Deuterated internal standards of testosterone and metabolites	16,16,17-d ₃ -Testosterone	D546	1 (ampoule)	155	218
Deuterated internal standards of testosterone and metabolites	16,16,17-d ₃ -Testosterone glucuronide (sodium salt)	S036	1 (ampoule)	121	169
Deuterated internal standards of testosterone and metabolites	16,16,17-d ₃ -Testosterone sulfate (Et ₃ N salt)	D506b	1 (ampoule)	155	218
Deuterated internal standards of testosterone and metabolites	19-d ₃ -Testosterone	D644	Exhausted	228	319
Deuterated internal standards of testosterone and metabolites	d ₃ -Epitestosterone	D548	1 (ampoule)	155	218
Deuterated internal standards of testosterone and metabolites	d ₄ -Epitestosterone	S001	1 (ampoule)	155	218
Deuterated internal standards of testosterone and metabolites	d ₃ -Epitestosterone glucuronide	D604	Exhausted	208	319
Deuterated internal standards of testosterone and metabolites	d ₃ -Epitestosterone sulfate	D591	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₃ -5α-Dihydrotestosterone	D552	1	155	218

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Deuterated internal standards of testosterone and metabolites	d ₃ -5 α -Dihydrotestosterone glucuronide free acid	D573b	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₃ -5 α -Dihydrotestosterone sulfate	D590	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₄ -Androsterone	D549	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₄ -Androsterone glucuronic acid	D829g	1 (ampoule)	155	218
Deuterated internal standards of testosterone and metabolites	d ₄ -Androsterone sulfate	D587	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₅ -Etiocholanolone	D528d	1 (ampoule)	121	169
Deuterated internal standards of testosterone and metabolites	d ₅ -Etiocholanolone sulfate	D606	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₃ -5 α -Androstane-3 α ,17 β -diol	D593	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₃ -5 α -Androstane-3 β ,17 β -diol	D594	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₅ -5 β -Androstane-3 α ,17 β -diol	D580	1	155	218
Deuterated internal standards of testosterone and metabolites	d ₅ -5 β -Androstane-3 β ,17 β -diol	S014	1	121	169

Category	Description	NMI reference	Unit of issue (mg)	Domestic Cost (A\$) (excl GST)	International Cost (A\$)
Deuterated internal standards of testosterone and metabolites	5 α -Androstane-3 β ,17 β -diol-3- β -glucuronic acid	D678b	1	155	218
Deuterated internal standards of testosterone and metabolites	5 α -Androstane-3 β -ol-17-one-3-glucuronide Na ⁺ salt	S031	1	121	169
Deuterated internal standards of testosterone and metabolites	17 α -Hydroxyprogesterone	S041	20	121	169
Nandrolone and metabolites	Nandrolone	S038	10	121	169
Nandrolone and metabolites	17 β -Nandrolone glucuronide (K ⁺ salt)	D861	1	228	319
Nandrolone and metabolites	17 β -Nandrolone sulfate (Na ⁺ salt)	D809b	1	121	169
Nandrolone and metabolites	17 α -Nandrolone (epi-nandrolone)	D722e	1 (ampoule)	121	169
Nandrolone and metabolites	17 α -Nandrolone sulfate	D783b	5	121	169
Nandrolone and metabolites	19-Norandrosterone	D555a	1 (ampoule)	121	169
Nandrolone and metabolites	19-Norandrosterone glucuronide (Na ⁺ salt)	D596a	1 (ampoule)	155	218
Nandrolone and metabolites	19-Norandrosterone sulfate (Et ₃ N salt)	D841b	1 (ampoule)	121	169
Nandrolone and metabolites	19-Noretiocholanolone	D554	1 (ampoule)	121	169
Nandrolone and metabolites	19-Noretiocholanolone glucuronide (Na salt)	D595a	1 (ampoule)	155	218
Nandrolone and metabolites	5(10)-Estrene-3 β ,17 α -diol	D926	Exhausted		
Deuterated internal standards of nandrolone and metabolites	d ₃ -17 β -Nandrolone	D583	5	228	319
Deuterated internal standards of nandrolone and metabolites	d ₃ -17 β -Nandrolone sulfate (Et ₃ N salt)	D782b	1 (ampoule)	155	218

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Deuterated internal standards of nandrolone and metabolites	¹³ C ₂ -17β-Nandrolone	D679	5	188	264
Deuterated internal standards of nandrolone and metabolites	d ₄ -19-Norandrosterone	D584c	1 (ampoule)	155	218
Deuterated internal standards of nandrolone and metabolites	d ₄ -19-Norandrosterone glucuronide (Na ⁺ salt)*	D898b	1	121	169
Deuterated internal standards of nandrolone and metabolites	d ₄ -19-Noretiocholanolone	D742	1 (ampoule)	155	218
Amphetamines	(±)-Amphetamine hydrochloride	D736c	50	155	218
Amphetamines	(±)-Amphetamine sulfate	D420d	50	121	169
Amphetamines	d-(+)-Amphetamine sulfate	D961	50	155	218
Amphetamines	(±)-4-Methylamphetamine hydrochloride	D895b	10	188	264
Amphetamines	(±)-4-Methylmethamphetamine hydrochloride	D963	20	188	264
Amphetamines	(±)-Methamphetamine hydrochloride	D816g	50	155	218
Amphetamines	S-(+)-Methamphetamine hydrochloride	D830b	50	121	169
Amphetamines	(±)-3,4-Methylenedioxyamphetamine hydrochloride (MDA)	D842c	50	121	169
Amphetamines	(±)-N-Methyl-3,4-methylenedioxyamphetamine hydrochloride (MDMA)	D792f	50	155	218
Cocaine and related compounds	Benzoylcegonine tetrahydrate	D745c	50	155	218
Cocaine and related compounds	Cocaine base	D826d	50	155	218
Cocaine and related compounds	Cocaine hydrochloride	D747c	20	155	218

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Cocaine and related compounds	Ecgonine hydrochloride	D746b	50	155	218
Cocaine and related compounds	Anhydroecgonine methyl ester	D847	Exhausted		
Cocaine and related compounds	Methyl ecgonine hydrochloride, monohydrate	D452c	10	188	264
Ephedrine and related compounds	(+)-Ephedrine hemihydrate	M723	100	155	218
Ephedrine and related compounds	(-)-Ephedrine hydrochloride	M924	100	155	218
Ephedrine and related compounds	(-)-Ephedrine hydrochloride	M924b	50	155	218
Ephedrine and related compounds	dl-Norephedrine hydrochloride (Phenylpropanolamine)	M296	100	121	169
Ephedrine and related compounds	(+)-Norpseudoephedrine hydrochloride (Cathine)	M297	50	121	169
Ephedrine and related compounds	p-Hydroxyephedrine hydrochloride (Oxilifrine hydrochloride)	D892b	5	121	169
Ephedrine and related compounds	(-)-Methylephedrine hydrochloride	M243b	20	121	169
Ephedrine and related compounds	dl-Norephedrine hydrochloride (Phenylpropanolamine)	M296	100	121	169
Ephedrine and related compounds	(+)-Norpseudoephedrine hydrochloride (Cathine)	M297	50	121	169
Ephedrine and related compounds	(-)-Pseudoephedrine base	D397	100	155	218
Ephedrine and related compounds	(+)-Pseudoephedrine hydrochloride	D775b	50	121	169
Opiates	Acetylcodeine base	D821c	50	188	264
Opiates	Buprenorphine base	D932	10	121	169

Category	Description	NMI reference	Unit of issue (mg)	Domestic Cost (A\$) (excl GST)	International Cost (A\$)
Opiates	Codeine base	D671b	50	155	218
Opiates	d3-Codeine base	D673	1	155	218
Opiates	Codeine glucuronide	D694	0.1	155	218
Opiates	d3-Codeine glucuronide	D695	0.1 (ampoule)	228	319
Opiates	Dihydrocodeine hydrogen tartrate	D823	50	155	218
Opiates	Heroin base	D752d	50	121	169
Opiates	Hydrocodone	D988	20	121	169
Opiates	Hydromorphone hydrochloride	D785b	20	121	169
Opiates	Methyl codeine	D924	10	121	169
Opiates	3-Monoacetylmorphine sulfamate	D766c	20	155	218
Opiates	6-Monoacetylmorphine base	D777c	20	121	169
Opiates	Morphine base monohydrate	D408e	50	155	218
Opiates	d3-Morphine base monohydrate	D709	1	155	218
Opiates	Morphine sulfate	D925	50	155	218
Opiates	Noscapine (Narcotine) base	D831b	50	155	218
Opiates	Noscapine (Narcotine) hydrochloride	D791b	50	121	169
Opiates	Oxycodone	D987	20	155	218
Opiates	Oxymorphone	D1038	10	155	218
Opiates	Papaverine hydrochloride	D750b	50	121	169
Opiates	Pholcodine	D539b	20	155	218
Opiates	Thebaine base	D731b	20	121	169
Miscellaneous	Caffeine	M724c	50	155	218
Miscellaneous	Cannabidiol	D512c	25	121	169
Miscellaneous	Fentanyl base	D918	Withdrawn from sales	155	218
Miscellaneous	Ketamine hydrochloride	D686c	50	155	218
Miscellaneous	Meperidine hydrochloride (pethidine)	D443b	20	121	169
Miscellaneous	Methadone hydrochloride	D425b	20	121	169
Miscellaneous	Salbutamol	M898c	10	155	218
Miscellaneous	d ₃ -Salbutamol	D939	1	155	218
Miscellaneous	Salmeterol hydroxynaphthoate	M904	Exhausted	155	218

Category	Description	NMI reference	Unit of issue (mg)	Domestic Cost (A\$) (excl GST)	International Cost (A\$)
Miscellaneous	Selegiline hydrochloride	D822	50	155	218
Selective Androgen Receptor Modulators (SARMs)	Andarine	D1074	1	121	169
Selective Androgen Receptor Modulators (SARMs)	Cardarine	D1077	1	121	169
Selective Androgen Receptor Modulators (SARMs)	Ligandrol (LGD-4033)	D1073	1	121	169
Selective Androgen Receptor Modulators (SARMs)	MK-677	D1078	1	121	169
Selective Androgen Receptor Modulators (SARMs)	Ostarine	D1075	5	121	169
Selective Androgen Receptor Modulators (SARMs)	RAD 140	D1076	1	121	169
Synthetic Cannabinoids	AM1220 1-[(1-Methylpiperidin-2-yl)methyl]-3-(1-naphthoyl)-indole	D982	20	121	169
Synthetic Cannabinoids	AM2201 [1-(5-Fluoropentyl)-3-(1-naphthoyl)-indole]	D983	20	121	169
Synthetic Cannabinoids	JWH-018 [N-Pentyl-3-(1-naphthoyl)indole]	D955	20	155	218
Synthetic Cannabinoids	JWH-210 [N-Pentyl-3-(4-ethyl-1-naphthoyl)indole]	D984	5	121	169
Synthetic Cannabinoids	XLR-11 [1-(5-Fluoro-pentyl)-3-(2,2,3,3-tetramethylcyclopropoyl)indole]	D1000	25	121	169

*Production funded by the US Anti-Doping Agency.

†Production funded by the Australian Government through the Anti-Doping Research Program.

NMI Reference Materials

Reference Materials (RMs) produced by NMI are NATA accredited to ISO 17034:2016(E) and prepared in accordance with our accreditation.

RMs have demonstrated homogeneity and stability and are supplied with:

- Product information sheet
- Safety Data Sheet (SDS)

NMI Certified Reference Materials

Certified Reference Materials (CRMs) produced by NMI have established metrological traceability to the SI unit for mass (kg).

CRMs have certified purity values, stated as a mass fraction with associated uncertainty and are supplied with:

- Certificate of Analysis (CoA)

Candidate materials

All care is taken in the storage and handling of these materials however they are not independently certified by NMI.

Individual unit issue size varies depending on the amount available and the difficulty of obtaining the replacement compound. They can be provided with the analytical information available.

Ampouled Materials

For each ampouled reference material the product information sheet / certificate of analysis will state the mass of analyte dispensed into each ampoule.

GST charges (Australian customers only)

The prices quoted are EXCLUSIVE of Goods and Services Tax (GST). The current GST rate is 10%. Upon delivery of the requested reference materials NMI will issue valid tax invoices and, if required, adjustment notes as per the requirements of the GST legislation.

Delivery Fee

Delivery and handling fees apply for all orders and vary with destination. Please check the applicable rates when ordering.

For further information



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