



Joint Research Centre

Certified reference materials for veterinary drugs



Synthetic estradiols

Material	Certified values		
BCR-412 , Bovine muscle 5 g, lyophilised	Diethylstilboestrol	[µg/kg]	< 0.1
ERM-BB386 , Bovine urine 0.36 g, lyophilised	Diethylstilboestrol Dienoestrol Hexoestrol	[µg/kg] [µg/kg] [µg/kg]	< 0.6 < 0.6 < 0.4
ERM-BB389 , Bovine urine 0.31 g, lyophilised	Diethylstilboestrol Dienoestrol Hexoestrol	[µg/kg] [µg/kg] [µg/kg]	1.1 ± 0.5 5.5 ± 1.4 6.1 ± 0.9

β-Agonists

Material	Certified values	
BCR-502 , Bovine urine 5 mL, lyophilised	Clenbuterol [µg/L] Salbutamol [µg/L]	< 0.1 < 0.2
BCR-503 , Bovine urine 5 mL, lyophilised	Clenbuterol [µg/L] Salbutamol [µg/L]	2.5 ± 0.4 2.3 +0.9 -0.6
BCR-504 , Bovine urine 5 mL, lyophilised	Clenbuterol [µg/L] Salbutamol [µg/L]	6.0 +0.7 -0.5 5.6 +1.9 -1.1
BCR-648 , Bovine liver 10 g, lyophilised	Clenbuterol [µg/kg]	< 0.5
BCR-649 , Bovine liver 10 g, lyophilised	Clenbuterol [µg/kg]	1.2 ± 0.3
BCR-673 , Bovine eye 0.1 g, lyophilised	Clenbuterol [µg/kg]	< 0.5
BCR-674 , Bovine eye 0.1 g, lyophilised	Clenbuterol [µg/kg]	9.4 ± 1.1

α-Trenbolone

Material	Certified values	
BCR-474-5 , Bovine liver set of 2 ampoules; 2.8 g lyophilised material each	BCR-474: 17 α-trenbolone [µg/kg] BCR-475: 17 α-trenbolone [µg/kg]	< 0.5 7.6 ± 2.2

Confidence in measurements

All certificates and detailed production information can be found at <https://crm.irmm.jrc.ec.europa.eu>

<https://ec.europa.eu/jrc/>



Antibiotics

Material	Substance	Mass fraction in reconstituted sample
BCR-444, Pork muscle, 7 g, lyophilised	Chloramphenicol [mg/kg]	< 0.2
ERM-BB130, Pork muscle, 7 g, lyophilised	Chloramphenicol [mg/kg]	0.230 ± 0.21
BCR-695, Pig liver, 5 g, lyophilised	Chlortetracycline [mg/kg]	< 0.004
BCR-696, Pig liver, 5 g, lyophilised	Chlortetracycline [mg/kg]	0.58 ± 0.11
BCR-697, Pig muscle, 5 g, lyophilised	Chlortetracycline [mg/kg]	< 0.006
BCR-706, Pig kidney, 5 g, lyophilised	Chlortetracycline [mg/kg]	< 0.005
BCR-707, Pig kidney, 5 g, lyophilised	Chlortetracycline [mg/kg]	1.30 ± 0.20
ERM-BB492-3, Milk powder set of 2 ampoules of 5.5 g each; spray-dried	Sum of oxytetracycline and 4-epi-oxytetracycline: ERM-BB492 [mg/kg] ERM-BB493 [mg/kg]	101 ± 11 < 5
BCR-725, Salmon 2.2 g, lyophilised	Flumequine [mg/kg] Oxolinic acid [mg/kg]	1170 ± 210 600 ± 100
ERM-BB124, Pork muscle 10 g, lyophilised	Ronidazole [mg/kg] Metronidazole [mg/kg] 2-hydroxymethyl-1-methyl-5-nitroimidazole [mg/kg] Hydroxymetronidazole [mg/kg] Hydroxypronidazole [mg/kg] Dimetridazole [mg/kg]	2.09 ± 0.25 1.93 ± 0.15 0.69 ± 0.09 6.2 ± 0.9 1.67 ± 0.12 < 0.25



Accredited CRM Producer: the JRC-IRMM is accredited to ISO Guide 34:2009 for the production of reference materials under the code BELAC 268-RM

How to order reference materials

From JRC in Geel

Tel.: +32 14 571 705 • Fax: +32 14 590 406 • <https://ec.europa.eu/jrc/en/reference-materials> • E-mail: jrc-irmm-rm-distribution@ec.europa.eu

From authorised distributors

LGC Standards GmbH (DE)
<http://www.lgcstandards.com/>
E-mail: de@lgcstandards.com

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