

**Table S1.** Maximum Residue Limits ( $\mu\text{g}\cdot\text{kg}^{-1}$ ) of antibiotics in aquaculture products in various countries

Classes Of Antibiotics	Compounds	CAS	Molecular Weight	LogP	EU	China	CAC
Aminoglycosides	Neomycin sulfate	1404-04-2	908.879	-3.7	500	500	/
	Spectinomycin	1695-77-8	332.350	1.3	300	/	/
	Kanamycin	8063-07-8	484.499	-2.6	100	/	/
Macrolides	Erythromycin	114-07-8	733.927	2.8	200	200	/
	Tylosin	1401-69-0	916.100	3.3	100	/	/
	Tilmicosin	108050-54-0	869.133	5.0	50	/	/
Lincomycins	Lincomycin	154-21-2	442.998	0.9	100	100	/
Quinolones	Flumequine	42835-25-6	261.248	2.4	600	500	500
	Sarafloxacin	98105-99-8	385.364	2.1	30	30	/
	Danofloxacin	112398-08-0	357.379	1.2	100	100	/
	Oxolinic acid	14698-29-4	261.23	1.4	100	100	/
	Enrofloxacin	93106-60-6	359.395	1.9	100	100	/
	Lomefloxacin	98079-51-7	387.809	1.7	/		/
	Pefloxacin	70458-92-3	333.357	1.5	/	F	/
	Ofloxacin	82419-36-1	361.368	0.8	/		/
	Norfloxacin	70458-96-7	319.331	0.8	/		/
Tetracyclines	Oxytetracycline	79-57-2	460.434	-1.5	100		200
	Chlortetracycline	57-62-5	478.88	-0.5	100	200 <sup>T</sup>	/
	Tetracycline	60-54-8	444.435	-0.6	100		/
	Doxycycline	564-25-0	444.435	-0.5	/	100	/

Sulfonamides	/	/	/	/	100 <sup>T</sup>	100 <sup>T</sup>	/
Beta-lactam	Amoxicillin	26787-78-0	365.404	0.6	50	50	50
	Ampicillin	69-53-4	349.405	1.3	50	50	50
	Benzylpenicillin	61-33-6	334.39	1.7	50	50	/
	Cloxacillin	61-72-3	435.881	2.5	300	300	/
	Oxacillin	66-79-5	401.436	2.1	300	300	/
	Penethacillin	3689-73-4	433.564	/	50	/	/
Amphenicols	Chloramphenicol	56-75-7	323.129	1.0	F,0.3 <sup>a</sup>	F	R
	Thiamphenicol	15318-45-3	356.222	-0.3	50	50	/
	Florfenicol	76639-94-6	358.213	-0.1	1000	1000	/
Nitrofurans	Nitrofurazone	59-87-0	198.136	-0.4	F,1 <sup>a</sup>	F	R
	Nitrofurantoin	67-20-9	238.157	-0.4			
	Furaltadone	139-91-3	324.289	-0.8			R
	Furazolidone	67-45-8	225.158	-0.5			/
	Nifustyrenate Sodium	54992-23-3	281.196	/			/
	Difurazone	804-36-4	360.282	2.6			/
Nitroimidazoles	Tinidazole	19387-91-8	247.272	-0.3	/	F	/
	Ronidazole	7681-76-7	200.152	-0.5			
	Dimetridazole	551-92-8	141.128	0.3	F	ND	R
	Metronidazole	443-48-1	171.154	0.0			
	Ipronidazole	14885-29-1	169.181	1.2	/	/	

Others	Malachite green	569-64-2	364.911	5.0	F,2 <sup>a</sup>	F	R
	trimethoprim	738-70-5	290.318	0.4	50	50	/

<sup>a</sup> MPRL set for poultry meat and aquaculture products.

/: Related information was not available.

F: Forbidden.

ND: Not detected.

R: Risk Management Recommendations.

<sup>†</sup> Total residue.

Molecular weight and Log P are Obtained from "http://www.chemspider.com/".

**Table S2.** Standard methods for the detection of antibiotics in aquaculture products in China

Number	Document	Classes Of Antibiotics	Matrix	Detection method		LOQ ( $\mu\text{g}\cdot\text{kg}^{-1}$ )
1	GB 29682-2013	Penicillins	aquaculture products	HPLC-UV		10-50
2	GB/T 20756-2006	Amphenicols	Animal muscle and liver, aquaculture products	LC-MS/MS	CAP: 0.1(LOD), Others: 1.0(LOD)	
3	GB/T 22338-2008	Amphenicols	aquaculture product, poultry	LC-MS/MS		0.1
4	GB/T 21316-2007	Sulfonamides	Animal muscle and liver, aquaculture products, milk	LC-MS/MS	Aquaculture: 10, other mateix: 50	
5	GB 29702-2013	Trimethoprim	aquaculture products	HPLC-UV		20
6	GB/T 20366-2006	Quinolones	Fish, shrimp, birds, rabbits	LC-MS/MS		1
7	GB 31660.1-2019	Macrolides	aquaculture products	LC-MS/MS		2-4
8	GB 29684-2013	Erythromycin	aquaculture products	LC-MS/MS		1
9	Announcement No. 783 of the Ministry of agriculture-1-2006	Nitrofurans	aquaculture products	LC-MS/MS		0.5
10	Announcement No. 1077 of the Ministry of agriculture-2-2008	Nitrofurans	aquaculture products	HPLC-UV		1
11	GB/T 20752-2006	Nitrofurans	Pork and liver, beef, chicken, aquaculture products	LC-MS/MS		0.5 (LOD)

12	GB/T 21311-2007	Nitrofurans	Muscle, liver, fish, shrimp, eggs, milk, honey	LC-MS/MS	0.5
13	GB/T 21317-2007	Tetracyclines	Animal muscle and liver, aquaculture products, milk	LC-MS/MS HPLC-UV	50 50
14	GB/T 22961-2008	Tetracyclines	swellfish, eel	HPLC-UV	10 (LOD)
15	GB/T 21318-2007	Nitroimidazoles	Animal Derived Food (including fish)	LC-MS/MS	0.5-1
16	GB/T 21314-2007	Cephapirin、ceftiofur	Animal Derived Food	LC-MS/MS	1、 50
17	GB/T 21323-2007	Aminoglycosides	Animal muscle and liver, aquaculture products	LC-MS/MS	20-100

**Table S3.** Matrix certified reference materials for antibiotic in different countries

Country	Matrix	Compounds	Serial number	standard values	uncertainty (k=2)
China	Eel muscle (Dried powder)	3-amino-2-oxazolidinone	GBW(E)100180	3.67 $\mu\text{g}\cdot\text{kg}^{-1}$	0.56
			GBW(E)100531	7.0 $\mu\text{g}\cdot\text{kg}^{-1}$	1
			GBW(E)100532	17.6 $\mu\text{g}\cdot\text{kg}^{-1}$	2.2
	Fish meat (Dried powder)	Chloramphenicol	GBW10137	0.59 $\mu\text{g}\cdot\text{kg}^{-1}$	0.07
			GBW(E)100365	0.60 $\mu\text{g}\cdot\text{kg}^{-1}$	0.05
			GBW(E)100072	11.8 $\mu\text{g}\cdot\text{kg}^{-1}$	26%
		Enrofloxacin	GBW10167	62.5 $\mu\text{g}\cdot\text{kg}^{-1}$	6.3
		Norfloxacin	GBW10168	41.80 $\mu\text{g}\cdot\text{kg}^{-1}$	5.9
	Chicken meat (Dried powder)	Enrofloxacin	GBW10152	0.38 $\text{mg}\cdot\text{kg}^{-1}$	0.053
		Ciprofloxacin	GBW10153	0.456 $\text{mg}\cdot\text{kg}^{-1}$	0.055
	milk powder	Chloramphenicol	GBW10085	0.9 $\mu\text{g}\cdot\text{kg}^{-1}$	0.07
	honey	Chloramphenicol	GBW(E)100569	0.7 $\mu\text{g}\cdot\text{kg}^{-1}$	0.2
		Norfloxacin	GBW(E)100563	31.70 $\mu\text{g}\cdot\text{kg}^{-1}$	3.9
		Ofloxacin	GBW(E)100564	22.2 $\mu\text{g}\cdot\text{kg}^{-1}$	3.1
		Danofloxacin	GBW(E)100570	27.2 $\mu\text{g}\cdot\text{kg}^{-1}$	5.1
		Enrofloxacin	GBW(E)100571	23.60 $\mu\text{g}\cdot\text{kg}^{-1}$	5
		Ciprofloxacin	GBW(E)100572	17.6 $\mu\text{g}\cdot\text{kg}^{-1}$	3.9
		Norfloxacin	GBW10180 (high)	6.7 $\mu\text{g}\cdot\text{kg}^{-1}$	0.8
		Ciprofloxacin			
		sulfadiazine		89.7 $\mu\text{g}\cdot\text{kg}^{-1}$	6.3
		sulfapyridine		96.7 $\mu\text{g}\cdot\text{kg}^{-1}$	7.2
		sulfamerazine		85.2 $\mu\text{g}\cdot\text{kg}^{-1}$	6.2
		sulfadimidine		97.2 $\mu\text{g}\cdot\text{kg}^{-1}$	6.8

Canada	Egg	sulfadiazine	GBW10181 (low)	20.8 $\mu\text{g}\cdot\text{kg}^{-1}$	2.4
		sulfapyridine		22.1 $\mu\text{g}\cdot\text{kg}^{-1}$	2.3
		sulfamerazine		19.7 $\mu\text{g}\cdot\text{kg}^{-1}$	2.8
		sulfadimidine		22.6 $\mu\text{g}\cdot\text{kg}^{-1}$	
		sulfamethoxazole	GBW(E)100499	20.6 $\mu\text{g}\cdot\text{kg}^{-1}$	3.1
		metronidazole	GBW(E)100568	13.7 $\mu\text{g}\cdot\text{kg}^{-1}$	1.7
		Enrofloxacin	GBW10150	30.6 $\mu\text{g}\cdot\text{kg}^{-1}$	3.1
		Ciprofloxacin	GBW10151	39.7 $\mu\text{g}\cdot\text{kg}^{-1}$	5.2
		Veterinary drug residues <sup>a</sup>	A33-11-02-BOTS	\	\
Australia	Freeze-Dried Prawn	3-amino-2-oxazolidinone	MX012A	30.2 $\mu\text{g}\cdot\text{kg}^{-1}$	1.8
		semicarbazide		70.3 $\mu\text{g}\cdot\text{kg}^{-1}$	3.1
		3-amino-2-oxazolidinone	MXB12B	137.5 $\mu\text{g}\cdot\text{kg}^{-1}$	8.5
South Korea	Chicken meat (Dried powder)	enrofloxacin	108-03-003(130708)	19.06 $\text{mg}\cdot\text{kg}^{-1}$	0.86
		ciprofloxacin	108-03-004(130715)	0.981 $\text{mg}\cdot\text{kg}^{-1}$	0.072

<sup>a</sup> includes chlorpromazine, ciprofloxacin, clenbuterol, dexamethasone, enrofloxacin, meloxicam, ractopamine, sulfadiazine.

\: Related information was not available.