RANDOX
FOOD DIAGNOSTICS

Drug Residues in Meat and Seafood

Premium quality screening

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With nearly 30 years' experience in the market and a dedicated research and development team, Randox Food Diagnostics is committed to developing and manufacturing premium, reliable screening solutions for the global meat and seafood industries.

Randox Food Diagnostics offer superior tools for the on-site screening of drug residues. At the forefront is the revolutionary and unique multiplex testing platform, the Evidence Investigator. The Evidence Investigator is a compact, semi-automated benchtop platform applicable in a wide range of settings. Re-defining standards within the drug residue screening industry, multiplex technology will reduce labour costs, increase throughput and combine convenience with confidence.

Superior Screening Solutions

Randox Food Diagnostics has grown to become the world's leading manufacturer of specialised methods for quantifiable screening of drug residues in Tissue, Prawn/ Shrimp, Egg & Urine. Continuously striving to consolidate screening, Biochip Array Technology (BAT) used on Evidence Investigator is at the leading edge of multiplex analysis with an ever growing consumer base in excess of 500 placements.

Matching performance, ease of use and dedicated test menus is the primary function of Randox Food Diagnostics' R&D team. The desire to revolutionise the traditional single analyte ELISA screening and a passion to produce kits that are suited to the scientist, has elevated Randox Food Diagnostics to the apex of the tissue screening market.

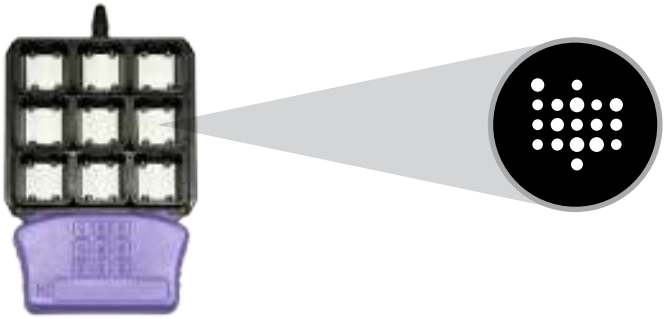
Leading reference institutions have approved Biochip Array Technology as a recognised method for screening drug residues. It is currently used by some of the world's largest private processors and government testing sites where over 12 million sirloin steaks are tested every year.

Multiplex Screening

Against traditional ELISA products using revolutionary BAT allows simultaneous screening of multiple analytes from a single sample, offering major efficiencies. Minimising the risk of operator error, labour saving elements from reduced sample handling, along with quantifiable results; BAT delivers the next generation of screening solutions.

Multiplex technology is proven to be applicable in a wide range of settings including; drug residue screening, private/public research applications, clinical laboratories and veterinary laboratories.

Randox Food Diagnostics are proud to have developed and manufactured this unique screening method, which when combined with a globally trusted test portfolio, form a powerful combination for any laboratory or testing facility.



Biochip Carrier

Spotted antibodies

Evidence Investigator Process

Add 25ul of prepared sample and reagents to each biochip

Use theromshaker to incubate up to 45 samples

Rinse, tap and dry each carrier prior to imaging

Add signal to each biochip and load into the analyser

Image and result processing on Evidence Investigator

Evidence Investigator Package

Randox Food Diagnostics provide a complete package to use Biochip Array Technology from point of sale. Along with the Evidence Investigator you also receive the PC, imaging software, barcode scanner, Randox's customised Thermoshaker and full training.

Thermoshaker & Biochip

PC & imaging software

Barcode scanner

Evidence Investigator


Revolutionary


multiplex analysis

Biochip Array Technology

Antimicrobial Array I Ultra (EV3843)

Assay	Compound	%CR	LOD*	
Sulphadimethoxine	Sulphadimethoxine	100	**6.5**	T
Sulphadiazine	Sulphadiazine	100	**3.0**	T
Sulphadoxine	Sulphadoxine	100	**3.2**	T
Sulphamethoxazole	Sulphamethoxazole	100	**1.6**	T
	Sulphamethizole	92		
Sulphapyridine	Sulphapyridine	100	**3.2**	T
Sulphamethoxypyridazine	Sulphamethoxypyridazine	100	**2.0**	T
Sulphachlorpyridazine	Sulphachlorpyridazine	100	**2.0**	T
Sulphamerazine	Sulphamerazine	100	**2.0**	T
Sulphisoxazole	Sulphisoxazole	100	**2.0**	T
Sulphathiazole	Sulphathiazole	100	**2.0**	T
	Sulphadiazine	6.2		
Sulphamethazine	Sulphamethazine	100	**3.2**	T
Sulphaquinoxaline	Sulphaquinoxaline	100	**2.0**	T
Sulphamonomethoxine	Sulphamonomethoxine	100	**10**	T
Trimethoprim	Trimethoprim	100	**3.0**	T
Dapsone	Dapsone	100	**3.5**	T

Antimicrobial Array III (EV3695)

Assay	Compound	%CR	LOD*	
AOZ	4-NP-AOZ	100	**0.06**	T
	Furazolidone	8.3	**0.06**	PS
AMOZ	4-NP-AMOZ	100	**0.08**	T
	Furaltadone	41	**0.08**	PS
AHD	4-NP-AHD	100	**0.08**	T
	Nitrofurantoin	42	**0.08**	PS
SEM	4-NP-SEM	100	**0.4**	T
			0.35	PS

Antimicrobial Array III CAP only (EV3738)

Assay	Compound	%CR	LOD*	
Chloramphenicol	Chloramphenicol	100	**0.01**	T
	Chloramphenicol Glucuronide	75.1		

Antimicrobial Array II (EV3524 A/B)

Assay	Compound	%CR	LOD*	
Quinolones	Norfloxacin	100	**5.0**	T
	Pefloxacin	84	**4.5**	U
	Enrofloxacin	76		
	Ciprofloxacin	59		
	Ofloxacin	57		
	Enoxacin	54		
	Pipemidic Acid	36		
	Fleroxacin	32		
	Levfloxacin	32		
	Nadifloxacin	27		
	Orbifloxacin	23		
	Danofloxacin	20		
	Marbofloxacin	16		
	Oxolinic Acid	12		
	Difloxacin	8		
	Pazufloxacin	7		
	Sarafloxacin	6		
Ceftiofur	Ceftiofur	100	**4.6**	T
	Desfuroylceftiofur	92	**3.3**	U
Thiamphenicol	Florphenicol	100	**1.3**	T
	Thiamphenicol	53	**0.7**	U
Streptomycin	Streptomycin	100	**14.0**	T
	Dihydrostreptomycin	182	**7.0**	U
Tylosin	Tylosin	100	**0.9**	T
	Tilmicosin	37	**0.5**	U
Tetracyclines	Tetracycline	100	**4.8**	T
	4-epitetracycline	87	**1.3**	U
	Rolitetracycline	67		
	4-epioxytetracylcine	52		
	Oxytetracycline	52		
	Chlortetracycline	51		
	Demeclocycline	41		
	Doxycycline	23		
	4-epichlortetracycline	20		
	Methacycline	11		

Avermectins Array (EV3842)

Assay	Compound	%CR	LOD*
Avermectins	Ivermectin	100	**0.75** T
	Abamectin	178	
	Doramectin	75	
	Emamectin Benzoate	254	
	Eprinomectin	191	

Coccidiostats Array** (EV3772)

Assay	Compound	%CR	LOD*
Lasalocid	Lasalocid	100	**2.0** E
Nicarbazin	Dinitrocarbanilide	100	**0.2** E
	Nicarbazin	98	
Imidocarb	Imidocarb	100	**0.1** E
Toltrazuril	Toltrazuril Sulphone	100	**1.5** E
	Toltrazuril Sulphoxide	145	
	Toltrazuril	7	
Maduramicin	Maduramicin	100	**0.7** E
Salinomycin	Salinomycin	100	**0.75** E
	Narasin	130	
Clopidol	Clopidol	100	**90** E
	Nequinate	135	
Monensin	Monensin	100	**0.6** E
	Monensin A	89	
Robenidine	Robenidine	100	**4.5** E
Decoquinate	Decoquinate	100	**10.0** E
Halofuginone	Halofuginone	100	**1.0** E
Diclazuril	Diclazuril	100	**1.8** E
	Clazuril	12	

Coccidiostats Feed (EV4131) and Tissue (EV4132) Array available

**LODs for tissue and feed, available on request

Anthelmintics (EV3770)

Assay	Compound	%CR	LOD*
Benzimidazoles (BZS)	Albendazole	100	**1.0** T
	Albendazole Sulphoxide	99	
	Albendazole Sulphone	178	
	Fenbendazole	10	
	Oxfendazole	40	
	(Fenbendazole sulphoxide)		
	Oxibendazole	48	
	Mebendazole	18	
	Oxfendazole Sulphone	14	
	(Fenbendazole sulphone)		
	Parbendazole	30	
	Carbendazim	10	
	Flubendazole	29	
	Hydroxy Flubendazole	2	
	Hydroxy Mebendazole	1	
Amino Benzimidazoles (ABZ)	Albendazole 2-amino sulphone	100	**0.15** T
	Amino-flubendazole	99	
	Amino-mebendazole	141	
Levamisole (LVM)	Levamisole	100	**6.5** T
Avermectins (AVM)	Ivermectin	100	**0.75** T
	Abamectin	178	
	Doramectin	75	
	Emamectin Benzoate	254	
	Eprinomectin	191	
Thiabendazole (TBZ)	Thiabendazole	100	**1.2** T
	5-Hydroxythiabendazole	91	
	Cambendazole	800	
Moxidectin (MXD)	Moxidectin	100	**1.6** T
Triclabendazole (TCBZ)	Triclabendazole	100	**0.8** T
	Triclabendazole Sulphoxide	40	
	Keto-triclabendazole	150	
	Triclabendazole Sulphone	1	

Synthetic Steroids (EV3694)

Assay	Compound	%CR	LOD*	
17 ß Clostebol	4-Chloro-androsten-3, 17-dione (CLAD)	100	0.95	U
	17 ß – Clostebol	34.8	0.40	U
Ethinylestradiol	Ethinylestradiol	100	0.41	U
			0.37	U
Gestagens	Chlormadinone acetate	100	0.31	U
	Medroxyprogesterone acetate	149	0.21	U
	Megestrol acetate	105		
	Melengestrol acetate	57		
Methyltestosterone	Methyltestosterone	100	0.82	U
	Methylboldenone	40.7	0.63	U

Ractopamine Array (EV3920)

Assay	Compound	%CR	LOD*	
Ractopamine	Ractopamine	100	0.1	T
	Ractopamine hydrochloride	100		

Zilpaterol (EV3907)

Assay	Compound	%CR	LOD*	
Zilpaterol	Zilpaterol	100	0.08	T

Key

E Egg

F Feed

PS Prawn / Shrimp

T Tissue

U Urine

*LOD - Limit of Detection (ppb)

Growth Promoter Multiple Matrix Screen (EV3726)

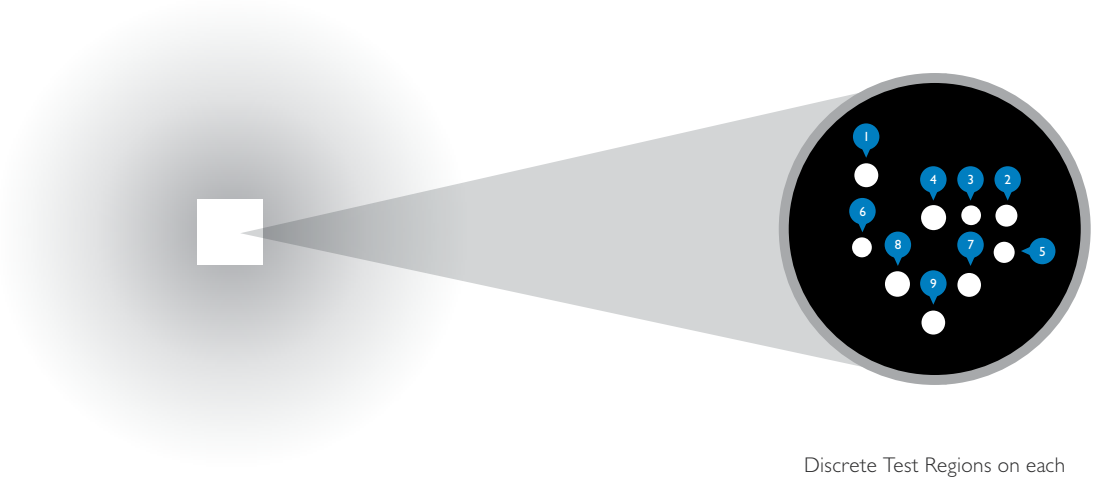
Assay	Compound	%CR	LOD*	
ß-Agonists	Clenbuterol	100	0.2	U
	Mapenterol	113	0.2	T
	Carbuterol	104	8.0	F
	Brombuterol	88		
	Salbutamol	70		
	Cimbuterol	54		
	Mabuterol	41		
	Terbutaline	22		
	Methyl-clenbuterol	20		
	Pirbuterol	15		
Boldenone	17 ß Boldenone	100	0.8	U
	1,4 Androstadiene-3,17-dione	55	0.5	T
	17 α Boldenone	15	140	F
	Boldenone glucuronide	15		
Corticosteroids	Dexamethasone	100	0.2	U
	Betamethasone-21-acetate	133	0.4	T
	Flumethasone	57	10	F
	Betamethasone	31		
	Dexamethasone-21-acetate	27		
Nandrolone	19-Nortestosterone (17ß)	100	2.0	U
	19-Nor-4 androstene,3, 17-dione	143	1.4	T
	Trenbolone Acetate	109	170	F
	17 ß Trenbolone	70		
	19-Nortestosterone (17ß) sulphate	55		
	19-Nortestosterone (17α)	27		
	19-Nortestosterone ß glucuronide	26		
Ractopamine	Ractopamine	100	0.2	U
	Ractopamine hydrochloride	100	0.3	T
			2	F
Stanozolol	Stanozolol	100	0.4	U
	16 ß Hydroxystanozolol	45	0.4	T
			9	F
Stilbenes	Hexestrol	100	0.4	U
	Diethylstilbestrol glucuronide	289	0.9	T
	Diethylstilbestrol	105	25	F
	Dienestrol	72		
Trenbolone	17 ß Trenbolone	100	0.4	U
	17 α Trenbolone	21	0.1	T
			8.0	F
Zeranol	Zeranol	100	0.8	U
	α – Zearalenol	10	0.3	T
	ß – Zearalenol	5.3	15	F
	Zearalenone	<1.4		
	Zearalanone	<0.4		

Growth promoter rapid urine 7 analyte array available (EV3521)

Analysis Times

Assay	Cat. No	Samples Per Kit	Sample Preparation	Incubation & Assay	Total Time
Antimicrobial Array I Ultra	EV3843	45	20 mins	2 hrs	2 hrs 20 mins
Antimicrobial Array II	EV3524 A/B	45	20 mins	2 hrs	2 hrs 20 mins
Antimicrobial Array III	EV3695	45	3 hrs 30 mins	2 hrs	5 hrs 30 mins
Antimicrobial Array III CAP Only	EV3738	45	1 hr 45 mins	2 hrs	3 hrs 45 mins
Avermectins Array	EV3842	45	1 hr 30 mins	2 hrs	3 hrs 30 mins
Ractopamine	EV3920	45	1 hr 30 mins	2 hrs	3 hrs 30 mins
Zilpaterol	EV3907	45	1 hr 30 mins	2 hrs	3 hrs 30 mins
Anthelmintics	EV3770	45	1 hr 30 mins	2 hrs	3 hrs 30 mins
Coccidiostats	EV3772	45	1 hr 30 mins	2 hrs	3 hrs 30 mins
Synthetic Steroids	EV3694	45	4 hrs 30 mins	2 hrs	6 hrs 30 mins
Growth Promoter Multiple Matrix Screen	EV3726	45	4 hrs 30 mins	2 hrs	6 hrs 30 mins

Analysis times based on 20 samples



Example : Antimicrobial Array II (EV3524)

Discrete Test Regions on each biochip for individual analytes

1. Reference spot
2. Correction spot
3. Quinolones
4. Ceftiofur
5. Thiamphenicol
6. Streptomycin
7. Tylosin
8. Tetracyclines
9. Correction spot

Benefits of Biochip Array Technology

Higher throughput

- Superior to ELISA, 45 samples assessed in under 3 hours

Meets regulations

- Conforms to EU regulatory requirements

Multiplex Screening

- Up to 22 analytes screened from a single sample

Reduced false positives

- Less than 5% false positives and no false negatives

Extensive test menu

- Extensive menu of drug residue tests

Simple sample preparation

- Each test provided with easy to use instructions (IFU)

Excellent sensitivity

- Quantitative concentration results (ppb) for each analyte

Cost savings

- Significant cost savings compared to confirmatory methods

The complete package

- Investigator, PC, thermoshaker, barcode scanner & training

Support Plan

Randox Food Diagnostics is offering full customer support with a 3-5 day installation plan included in the Evidence Investigator package.

This plan includes :

- Full set up of equipment
- Training on sample preparation
- Training on assay procedure and imaging
- Training on software and results reporting
- Training on basic troubleshooting

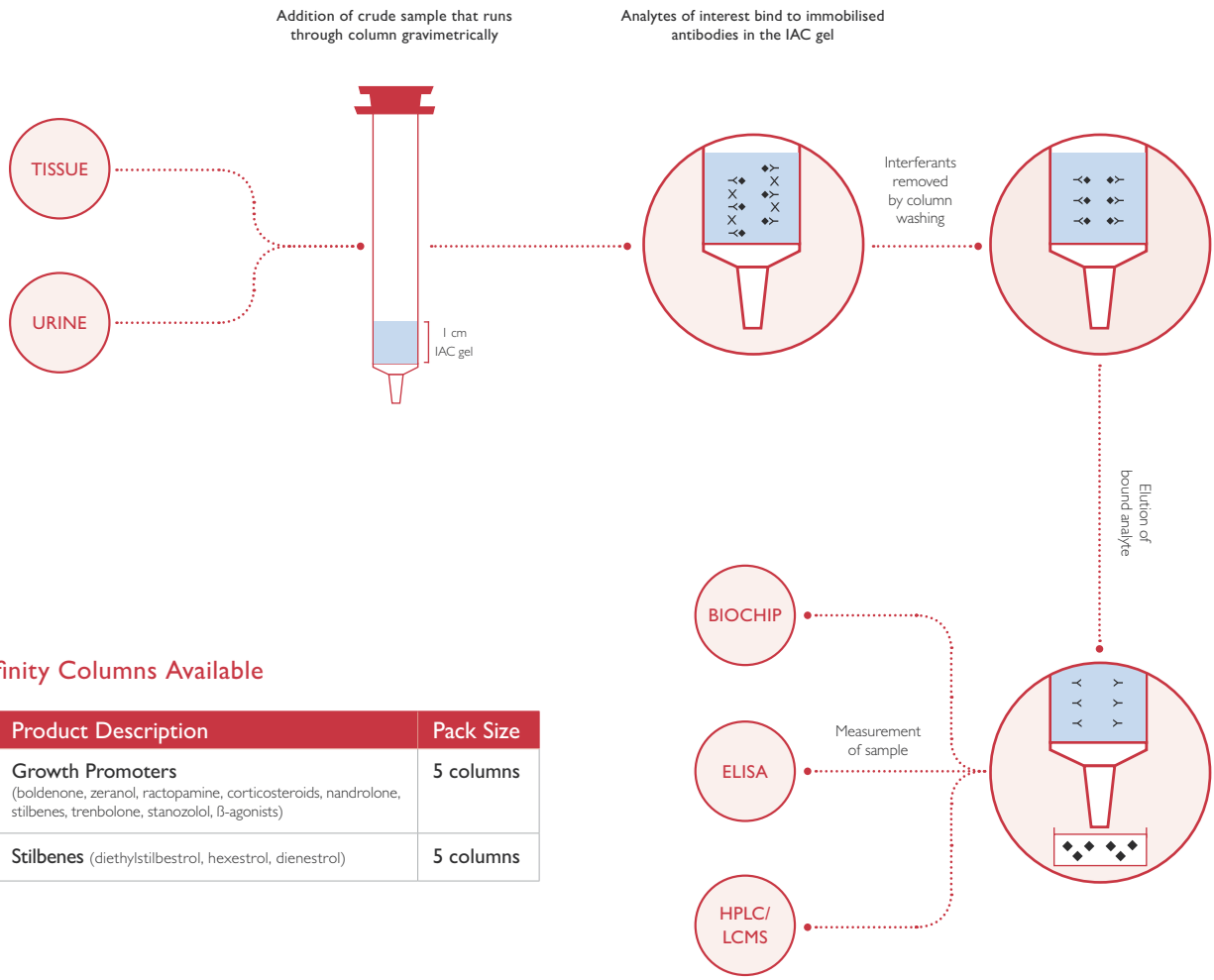
This package also includes 1 years full warranty, unrivalled customer support and online trouble shooting (internet connection required).

An extended warranty plan of up to four years is also available on request.

Immunoaffinity Columns

Sample clean up is an essential part of drug residue testing, whether it is performed by BAT, ELISA, confirmatory methods or any other technique.

To complement the range of testing platforms for measuring drug residues, Randox Food Diagnostics offer a Multiplex approach to sample clean up with our Growth Promoters IAC.



Immunoaffinity Columns Available

Cat No.	Product Description	Pack Size
GP1821	**Growth Promoters** (boldenone, zeranol, ractopamine, corticosteroids, nandrolone, stilbenes, trenbolone, stanozolol, ß-agonists)	5 columns
SJ2154	**Stilbenes** (diethylstilbestrol, hexestrol, dienestrol)	5 columns

ELISA Test Kits

With extensive experience in drug residue screening that stretches over 30 years, Randox Food Diagnostics have translated this knowledge into premium quality ELISA kits that combine confidence with convenience.

Using antibodies cultivated at Randox HQ, ELISAs produced by Randox Food exclusively for the food industry boast excellent limits of detection, simple sample preparation and a test menu covering over 30 drug residues. All these elements, combined with Randox's intensive quality assurance program, guarantee premium quality screening.

Meat Kits

Drug Residue	Cat. No
19-Nortestosterone	NT2105
Avermectins	AV3477
Beta Agonist FAST (Urine)	BF10035
Beta-Agonist FAST	SU2148
Beta-Lactams	BL3448
Boldenone FAST	BD2382
Chloramphenicol FAST	CN1469
Clenbuterol	CB1418
Corticosteroids	DM2156
Oxytetracycline Sensitive	OX10037A/B
Phenylbutazone	PB3456
Quinolones	QL3454
Ractopamine FAST	RT3451
Stilbenes	SJ2152
Streptomycin	STP3468
Sulphadiazine	SZ2147
Sulphamethazine	SM2146
Sulphaquinoxaline	SQ2145
Tetracycline Sensitive	TC3492
Trenbolone	TB2106
Zeranol	ZR2421
Zilpaterol	ZP3483

Seafood Kits

Drug Residue	Cat. No
AHD FAST	NF3463
AMOZ FAST	NF3462
AOZ FAST	NF3465
SEM FAST	NF3461
Chloramphenicol FAST	CN1469
Doxycycline Sensitive	DOX10107
Oxytetracycline Sensitive	OX10037A/B
Leucomalachite Green	LMG3466
Quinolones	QL3454

FAST kits provide analysis under 60 mins

RANDOX
FOOD DIAGNOSTICS

500+

laboratories using Randox
Food Diagnostics technology

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