

# Residue Detection: A Survey of Available Technology

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## Antimicrobial Drug Residue Detection Tests Presently Available for use in Milk, Urine, Serum, and Tissues

Marketing Firm	Test Name	Test Format	Matrix	Residues Detected	Sensitivity	(ppb)	Cost*
Angenics	Spot Test	latex agglutination	milk	penicillin, cephalosporin, cloxacillin	penicillin	5	\$1.35
					cephalopirin	25	
Environmental Diagnostics, Inc	EZ-Screen	ELISA-card	urine, serum, tissue	chloramphenicol	cloxacillin	75	\$7.50
					urine	5	
					serum	10	
	EZ-Screen	ELISA-card	urine, tissue, feed	gentamicin	urine	100	\$7.50
					serum, tissue, feed, water	100	
	EZ-Screen	ELISA-card	urine, serum, tissue, feed, water	sulfamethazine	urine	500	\$7.50
					serum	160	
					tissue	100	
					feed	1000	
					water	100	
	EZ-Screen	ELISA-card	urine, tissue, feed	tylosin	urine	100	\$7.50
	EZ-Screen Sulfa-dimethoxine in Milk	ELISA-card	milk	sulfadimethoxine	milk	10	\$3.75
EZ-Screen Sulfa-methazine in Milk	ELISA-card	milk	sulfamethazine	milk	10	\$3.75	
Live Animal Swab Test (LAST)	microbial-plate	urine	beta-lactam antibiotics	penicillin data not available		\$1.25	
Calf Antibiotic Sulfa Test (CAST)	microbial-plate	kidney	beta-lactams, sulfonamides	May not be sensitive enough to detect residues at the tolerance level		\$1.25	
Gist-Brocades Food Ingredients, Inc.	Delvotest SP	microbial inhibition	milk	beta-lactams, sulfonamides	penicillin	3	\$0.80
					sulfonamides	500-1000	
Glengarry Biotech	BR-Test AS	microbial inhibition	milk	beta-lactams, dihydrostreptomycin, gentamicin, neomycin, tetracyclines, erythromycin, tylosin, chloramphenicol, virginiamycin, bacitracin, sulfonamide	penicillin	2	\$1.30
					ampicillin	1.5	
					cloxacillin	40	
					dihydrostreptomycin	400	
					gentamicin	500	
					neomycin	250	
					oxytetracycline	250	
					chlortetracycline	30	
					tetracycline	250	
					erythromycin	50	
					tylosin	20	
					chloramphenicol	3,500	
					virginiamycin	150	
					bacitracin	1.5	
					sulfamethazine	100	
					sulfanilamide	200	
					sulfadiazine	15	
sulfathiazole	9						

Marketing Firm	Test Name	Test Format	Matrix	Residues Detected	Sensitivity	(ppb)	Cost*
	BR-Test	microbial inhibition	milk, muscle, kidney	beta-lactams, dihydrostreptomycin, gentamicin, neomycin, tetracyclines, erythromycin, tylosin, chloramphenicol, vir- giniamycin, bacitracin, sulfonamide	penicillin ampicillin, cloxacillin dihydrostreptomycin gentamicin neomycin oxytetracycline chlortetracycline tetracycline erythromycin tylosin chloramphenicol virginiamycin bacitracin sulfathiazole	0.9 1 60 6,000 600 1,000 180 300 180 100 40 3,000 200 1.75 55	\$1.15
IDEXX Corp.	Cite Sulfamethazine Test Kit	ELISA-cup	milk	sulfamethazine	milk	10	\$2.80
	Cite Probe Gentamicin Test Kit	ELISA-probe	milk	gentamicin	milk	30	\$4.50
	Cite Probe Beta-Lactam Test Kit	ELISA-probe	milk	beta-lactams	penicillin	3	CALL
Idetek, Inc.	QuickTest	ELISA-tube	feed	sulfamethazine	feed	1,000	CALL
	Sulfamethazine Serum/Plasma Test Kit	ELISA-microtiter plate	serum, plasma	sulfamethazine	serum, plasma	100	\$3.75
	LacTek Beta-Lactam Milk Screening Kit	ELISA-tube test	milk	beta-lactams	amoxicillin ampicillin cephapirin cloxacillin hetacillin nafcillin oxicillin penicillin	4 4 5 10 4 6 4 5	\$2.20
	LacTek Milk Sulfamethazine Screening Kit	ELISA-tube test	milk	sulfamethazine	milk	10	\$2.00
	LacTek Milk Gentamicin Screening Kit	ELISA-tube test	milk	gentamicin	milk	10	\$2.00
Neogen Corp.	Agri-Screen Sulfamethazine Lab Kit	ELISA-wells	milk, blood	sulfamethazine	milk blood	10 400	\$3.20
	Agri-Screen Sulfamethazine Field Kit	ELISA-wells	milk, blood	sulfamethazine	milk blood	10 400	\$4.30
Penicillin Assays, Inc.	Charm II Test	receptor	milk	beta-lactams, tetracyclines, aminglycosides, novobiocin, macro- lides, chloramphenicol, sulfonamides	penicillin ampicillin cephapirin cloxacillin tetracycline gentamicin novobiocin erythromycin chloramphenicol sulfamethazine sulfadimethoxine sulfanilamide sulfathiazole sulfapyridine	2 4 2 20 100 20 20 25 50 5 2 7.5 2 7.5	\$1.80
	Charm I Test	receptor	milk	beta-lactams, sul- fonamides	penicillin sulfamethazine	3 10	\$1.90
	Charm Cowside Test	receptor	milk	beta-lactams, sul- fonamides	penicillin sulfamethazine	4 10	\$2.95

Marketing Firm	Test Name	Test Format	Matrix	Residues Detected	Sensitivity	(ppb)	Cost*											
SmithKline Animal Health Products	Charm Inhibition Assay (CIA)	microbial inhibition	milk	beta-lactams, tetracyclines, aminoglycosides, macrolides, chloramphenicol, sulfonamides	penicillin	3	\$1.00											
					ampicillin	5												
					cephapirin	5												
					cloxacillin	20												
					tetracycline	250												
					gentamicin	20												
					erythromycin	200												
					chloramphenicol	3,000												
					sulfamethazine	10												
					sulfadimethoxine	7.5												
SmithKline Animal Health Products	Charm Farm Test	microbial inhibition	milk	beta-lactams, tetracyclines, aminoglycosides, macrolides, sulfonamides	penicillin	6	\$1.25											
					tetracycline	250												
					gentamicin	75												
					erythromycin	300												
					sulfamethazine	20												
					sulfadimethoxine	10												
					SmithKline Animal Health Products	Penzyme		enzyme	milk	beta-lactams	penicillin	5	\$1.35					
											Signal Neomycin Detection Test	ELISA-wells		milk, urine, serum, tissue, feed	neomycin	milk	10	\$2.50
																urine	10	
																serum	150	
tissue	100																	
feed	1,000																	
SmithKline Animal Health Products	Signal Sulfamethazine Detection Test	ELISA-wells	milk, urine, serum, tissue, feed	sulfamethazine			milk									10	\$2.50	
							urine									10		
							serum									150		
							tissue									100		
					feed	1,000												
					SmithKline Animal Health Products	Signal Gentamicin Detection Test	ELISA-wells	milk, urine, serum, tissue, feed	gentamicin	milk	10	\$2.50						
										urine	10							
										serum	150							
										tissue	100							
										feed	1,000							
SmithKline Animal Health Products	Signal Quick-Card Sulfamethazine Detection Test	ELISA-card	urine, serum, feed	sulfamethazine						urine	500		\$2.50					
										serum	160							
										feed	1,200							

\*Cost per sample; excludes capital equipment; quantity discounts may apply; prices subject to change.

#### Addresses and Telephone Numbers of Companies Marketing Drug Residue Detection Tests

Angenics 365 Plantation Street Worcester, MA 01605 Phone (800)523-2250	Glengarry Biotech 850 Boundary Road Cornwall, Ontario, Canada Phone (613)936-2722	Neogen Corp. 620 Leshar Place Lansing, MI 48912 Phone (800)234-5333
Environmental Diagnostics, Inc Box 908 1238 Anthony Road Burlington, NC 27215 Phone (800)334-1116	Idetek, Inc. 1057 Sneath Lane San Bruno, CA 94066 Phone (800)433-8351	Penicillin Assays, Inc. 36 Franklin Street Malden, MA 02148 Phone (617)322-1523
Gist-Brocades Food Ingredients, Inc. 2200 Renaissance Boulevard Suite 150 King of Prussia, PA 19406 Phone (215)272-4040	IDEXX Corp. 100 Fore Street Portland, ME 04101 Phone (800)548-6733	SmithKline Animal Health Products Division of SmithKline Beecham 1600 Paoli Pike P.O. Box 2650 West Chester, PA 19380 Phone (800)877-7303