



# Cole-Parmer®

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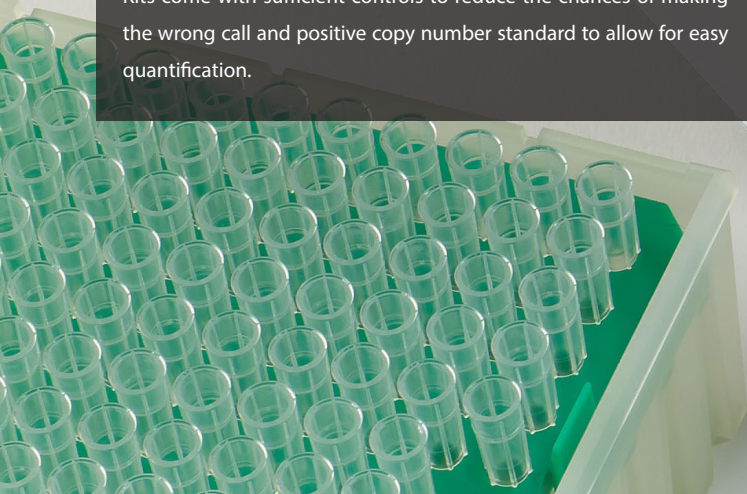
qPCR Reagent Kits

Speed. Confidence. Value. Sensitivity. Performance.

## Cole-Parmer Reagent Kits

The Cole-Parmer detection kits utilise the sensitivity and speed of qPCR to get the most accurate data as quickly as possible. Each kit is specifically designed by our bioinformatics team to ensure the broadest possible detection profile and detection of clinically relevant strains and subtypes.

Kits come with sufficient controls to reduce the chances of making the wrong call and positive copy number standard to allow for easy quantification.



## DNA Kits

Each Cole-Parmer DNA reagent kit employs the same experimental setup, amplification protocol and interpretation of results.

Plate setup includes:

1. Internal control DNA (read through VIC) and samples (read through FAM).
2. Beta-actin endogenous control (read through FAM).
3. Positive control, also used for standard curve (read through FAM).
4. Negative control (read through FAM).



## DNA Protocol

	Step	Time	Temperature
1 cycle	Enzyme activation	2 minutes	95°C
50 cycles	Denaturation	10 seconds	95°C
	Data collection*	60 seconds	60°C

\* Fluorogenic data for the pathogen and beta-actin endogenous control is collected during this step through the FAM channel. Fluorogenic data for the internal extraction control should be collected during this step through the VIC channel.

## DNA Results

Pathogen	Internal control	Negative control	Positive control	Interpretation
+	+	-	+	Positive result
+	-	-	+	Negative result
-	+	-	+	Experiment fail
-	-	-	-	Experiment fail
+	+	+	+	Experiment fail

## Key features

- 150 tests per kit: exceptional cost per data point
- Available either with or without mastermix for added flexibility and work flow fit.
- Supplied as lyophilised components plus resuspension buffers and water (allows for ambient shipping followed by -20 storage on arrival)
- Positive copy number standard curve for accurate quantification
- Rapid detection of clinically relevant subtypes
- Highly specific detection profile with high efficiency priming
- Broad dynamic detection range (>6 logs)
- Sensitive to < 100 copies of target
- Multiple control types to simplify results
- Only two protocols for the entire range: one DNA and one RNA.

## Kit contents

- Lyophilised primer and probe mix
- Lyophilised master mix
- Lyophilised master mix resuspension buffer (liquid)
- Lyophilised ROX Ampule
- High-copy DNA for standard curve
- Internal extraction control DNA
- Primer/probe for detecting endogenous control
- RNase/DNase free water
- Reverse transcriptase (within the mastermix of RNA kits only)

## RNA Kits

Each Cole-Parmer RNA reagent kit employs the same experimental setup, amplification protocol and interpretation of results.

Plate setup includes:

1. Internal control DNA (read through VIC) and samples (read through FAM).
2. Beta-actin endogenous control (read through FAM).
3. Positive control, also used for standard curve (read through FAM).
4. Negative control (read through FAM).

## RNA Protocol

	Step	Time	Temperature
1 cycle	Reverse transcription	10 minutes	55°C
	Enzyme activation	2 minutes	95°C
50 cycles	Denaturation	10 seconds	95°C
	Data collection*	60 seconds	60°C

\* Fluorogenic data for the pathogen and beta-actin endogenous control is collected during this step through the FAM channel. Fluorogenic data for the internal extraction control should be collected during this step through the VIC channel.

## RNA Results

Pathogen	Internal control	Negative control	Positive control	Interpretation
+	+	-	+	Positive result
+	-	-	+	
-	+	-	+	Negative result
-	-	-	-	Experiment fail
+	+	+	+	

# Human pathogens

The Human Pathogen section of the Cole-Parmer detection kit range can be further divided into sub categories, see below, within these sub divisions lie the most commonly requested and tested infections and diseases.

Without Mastermix	With Mastermix	Description
<b>Respiratory Infections</b>		
93942-07	93942-08	DNA, Adenovirus Type C
93946-61	93946-62	DNA, Chlamydomphila psittaci v2.0
-	93948-52	DNA, Cryptococcus neoformans
93947-92	93947-93	RNA, Avian Influenza A virus Subtype H7N9
93940-86	93940-87	DNA, Haemophilus influenzae
93942-12	93942-13	RNA, All Group 1 Coronavirus genomes
93942-14	93942-16	RNA, All Group 2 Coronavirus genomes
16226-79	16226-80	RNA, Influenza Type A M1 v2.0
93942-74	93942-75	RNA, Human Influenza Type A M2 v2.0
93942-72	93942-73	RNA, Human Influenza A virus Subtype H3
93942-80	93942-81	RNA, Human Metapneumovirus v3.0
93943-45	93943-47	RNA, Human Parainfluenza virus Type 4A
93943-83	93943-84	RNA, Human Rhinovirus Subtype 16
93943-77	93943-78	RNA, Human Rhinovirus All subtypes (generic)
93940-90	93940-91	DNA, Klebsiella pneumoniae
93945-81	93945-82	DNA, All Legionella species v2.0
93940-94	16228-02	DNA, Legionella pneumophila
93946-95	93946-96	DNA, Leptospirosis
93944-06	93944-08	DNA, Merkel cell polyomavirus
93940-96	93940-97	DNA, Methicillin-resistant Staphylococcus aureus
93947-10	93947-11	DNA, Mycobacterium avium subspecies paratuberculosis
93941-08	93941-09	DNA, Mycobacterium tuberculosis complex
93947-08	-	DNA, Mycobacterium avium
16228-18	93941-17	DNA, Mycoplasma pneumoniae
93944-23	16228-59	RNA, Respiratory Syncytial virus A
-	93944-28	RNA, Respiratory Syncytial virus B v2.0
93940-92	93940-93	DNA, Legionella longbeachae
93944-03	-	DNA, KI polyomavirus
93960-01	93960-03	RNA, 2019-nCoV
93941-06	93941-07	DNA, Mycobacterium Tuberculosis

## Sexually transmitted Infections

93940-56	93940-57	DNA, Candida albicans
93940-58	10095-18	DNA, Chlamydia trachomatis
93942-36	16225-67	RNA, Hepatitis A virus
-	16227-02	DNA, Hepatitis B virus v2.0
93942-46	93942-47	DNA, Herpes simplex Type 1 (HHV1)
93942-48	93942-49	DNA, Herpes simplex Type 1 and 2 (HHV1&2)
93942-50	93942-51	DNA, Herpes simplex Type 2 (HHV2)
93942-68	93942-69	RNA, Human Immunodeficiency virus Type 2 v2.0
93942-84	93942-85	DNA, Human Papillomavirus 16
93942-86	93942-87	DNA, Human Papillomavirus 18
93942-92	93942-93	DNA, Human Papillomavirus 45
93941-13	93941-14	DNA, Mycoplasma hominis
93941-23	93941-24	DNA, Neisseria gonorrhoeae
93941-87	93941-88	DNA, Treponema pallidum
93941-89	93941-90	DNA, Trichomonas vaginalis
16228-96	16228-97	DNA, Ureaplasma urealyticum
93941-11	93941-12	DNA, Mycoplasma genitalium

## Herpes viral Infections

93942-26	93942-27	DNA, Cytomegalovirus (HHV5) v2.0
93942-32	93942-33	DNA, Epstein Barr virus (HHV4)
93942-46	93942-47	DNA, Herpes simplex Type 1 (HHV1)
93942-48	93942-49	DNA, Herpes simplex Type 1 and 2 (HHV1&2)
93942-50	93942-51	DNA, Herpes simplex Type 2 (HHV2)
93942-56	93942-57	DNA, Human Herpesvirus 6
16227-14	93942-55	DNA, Human Herpesvirus 3
93942-62	16227-23	DNA, Human Herpesvirus 7
93942-64	93942-65	DNA, Human Herpesvirus 8

Without Mastermix	With Mastermix	Description			
<b>Hepatitis Infections</b>			<b>Periodontal infections</b>		
93942-36	16225-67	RNA, Hepatitis A virus	93941-42	93941-43	DNA, Porphyromonas gingivalis
-	16227-02	DNA, Hepatitis B virus v2.0	93941-67	93941-68	DNA, Streptococcus mutans
93942-42	93942-43	RNA, Hepatitis Delta virus			
93942-44	93942-45	RNA, Hepatitis E virus			
<b>Human Papillomavirus</b>			<b>Others</b>		
93942-84	93942-85	DNA, Human Papillomavirus 16	93940-31	-	DNA, All Acanthamoeba species v2.0
93942-86	93942-87	DNA, Human Papillomavirus 18	93945-72	93945-74	DNA, Acinetobacter baumannii
93942-92	93942-93	DNA, Human Papillomavirus 45	-	93946-08	DNA, Aspergillus fumigatus
			93940-43	93940-44	DNA, Aspergillus
			93946-19	93946-20	DNA, Bacillus anthracis
			93946-25	93946-26	DNA, Bartonella henselae
			93946-35	93946-36	DNA, Brucella abortus
			93946-37	93946-38	DNA, Brucella genus (All species)
			93946-39	93946-40	DNA, Burkholderia mallei (with Mastermix)
			93946-45	93946-46	DNA, Campylobacter fetus
			93946-57	93946-58	DNA, Chlamydomphila abortus
			93940-64	93940-65	DNA, Clostridium difficile (toxin B)
			93946-75	93946-76	DNA, Enterocytozoon bienewisi v2.0
			93945-79	16229-43	DNA, All Encephalitozoon species
			93946-81	93946-82	DNA, Francisella tularensis
			93942-17	16226-76	RNA, All Human Enterovirus species
			93942-78	16227-33	RNA, Human Measles virus
			93943-65	93943-67	QPCR Kit, DNA, Human Parvovirus B19
			93943-93	93943-94	RNA, Human T-lymphotropic virus Type 1
			93943-91	93943-92	RNA, Human T-lymphotropic virus Type 2
			93940-88	93940-89	DNA, Klebsiella oxytoca
			93940-90	93940-91	DNA, Klebsiella pneumoniae
			93945-81	93945-82	DNA, All Legionella species v2.0
			93946-99	93947-01	DNA, Lyme disease
			93944-06	93944-08	DNA, Merkel cell polyomavirus
			93940-96	93940-97	DNA, Methicillin-resistant Staphylococcus aureus
			93947-14	93947-15	DNA, Mycobacterium marinum and ulcerans
			93941-13	93941-14	DNA, Mycoplasma hominis
			93941-18	93941-19	DNA, Mycoplasma species
			93945-83	68001-21	DNA, All Naegleria species
			93944-16	93944-18	DNA, Orf virus (Contagious pustular dermatitis)
			93941-40	93941-41	DNA, Pneumocystis jirovecii
			93941-46	93941-47	DNA, Proteus mirabilis
			93941-48	93941-49	DNA, Pseudomonas aeruginosa
			93944-41	93944-42	DNA, Simian virus 40
			93941-59	93941-60	DNA, Staphylococcus aureus
			93941-61	93941-62	DNA, Staphylococcus epidermidis
			93947-48	93947-49	DNA, Streptococcus agalactiae
			93941-71	93941-72	QPCR Kit, DNA, Streptococcus pneumoniae
			93950-65	93950-66	RNA, Tai Forest Ebola virus
			93947-66	10095-31	DNA, Toxoplasma gondii
			93942-19	93942-21	DNA, BK Virus
			93940-66	93940-67	DNA, Clostridium sporogenes
			93946-55	16229-28	RNA, Chlamydiaceae (all species)
			93940-39	93940-40	DNA, Fusarium (all species)
			93941-21	68001-22	DNA, Naegleria fowleri
<b>Gastrointestinal infections</b>					
93941-97	93941-98	DNA, Bifidobacterium bifidum			
93946-49	93946-50	DNA, Campylobacter Jejuni			
93940-56	93940-57	DNA, Candida albicans			
93945-95	-	DNA, All Clostridium perfringens species			
93940-64	93940-65	DNA, Clostridium difficile (toxin B)			
93940-33	93940-34	DNA, All Bacteroides species			
93940-37	93940-38	DNA, All Entamoeba species			
93941-51	93941-52	DNA, Enterococcus faecalis			
93940-74	93940-75	DNA, Enteropathogenic Escherichia coli			
93946-77	93946-78	DNA, Escherichia coli			
-	93946-80	DNA, Escherichia coli O157:H7			
93940-76	93940-77	DNA, Escherichia coli O104:H4			
93946-87	16226-07	DNA, Giardia intestinalis			
93940-78	93940-79	DNA, H Pylori			
-	93946-98	DNA, Listeria monocytogenes			
93948-99	16229-59	RNA, Rotavirus A			
93947-38	93947-39	DNA, Salmonella enterica			
93947-42	93947-43	DNA, Shiga toxin (stx1) producing Escherichia coli			
16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli			
93945-87	93945-88	DNA, All pathogenic Salmonella species			
93945-93	93945-94	DNA, All Vibrio species v2.0			
93945-91	93945-92	DNA, All Vibrio cholerae subspecies			
<b>Vector-borne diseases</b>					
93946-03	93946-04	DNA, Anaplasma phagocytophilum			
93940-51	93940-53	DNA, Borrelia burgdorferi			
93942-24	93942-25	RNA, Chikungunya virus			
93946-69	93946-70	DNA, Coxiella burnetii			
93948-49	93948-50	RNA, Crimean-Congo Haemorrhagic Fever virus			
93942-30	93942-31	RNA, Dengue virus Type 3			
93940-35	93940-36	DNA, All Ehrlichia species			
93946-81	93946-82	DNA, Francisella tularensis			
93943-97	93943-98	QPCR Kit, RNA, Japanese Encephalitis virus			
93946-89	93946-90	DNA, Leishmania infantum and donovani			
93946-91	16228-01	DNA, Leishmania major			
-	10095-23	DNA, All Leishmania species			
93946-99	93947-01	DNA, Lyme disease			
93941-28	93941-29	DNA, Plasmodium falciparum			
93941-38	93941-39	DNA, Plasmodium vivax			
93940-41	93940-42	DNA, All Plasmodium species			
93941-53	93941-54	DNA, Rickettsia (All species)			
93944-38	93944-40	RNA, Sandfly Fever Sicilian virus			
16224-38	93951-13	RNA, West Nile virus			
93944-49	16229-01	RNA, Yellow Fever virus			
<b>Meningitis</b>					
93942-26	93942-27	DNA, Cytomegalovirus (HHV5) v2.0			
93942-17	16226-76	RNA, All Human Enterovirus species			
93942-32	93942-33	DNA, Epstein Barr virus (HHV4)			
93940-86	93940-87	DNA, Haemophilus influenzae			
93942-46	93942-47	DNA, Herpes simplex Type 1 (HHV1)			
93942-48	93942-49	DNA, Herpes simplex Type 1 and 2 (HHV1&2)			
93942-50	93942-51	DNA, Herpes simplex Type 2 (HHV2)			
93946-95	93946-96	DNA, Leptospirosis			
93941-71	93941-72	DNA, Streptococcus pneumoniae			

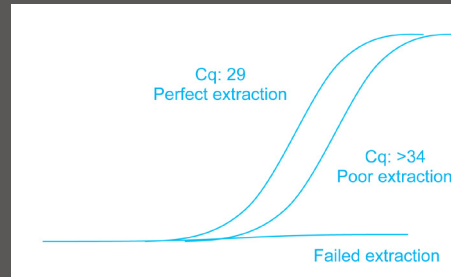
## High sensitivity

Primers and probes provide highly specific, easy to interpret test results with sensitivity down to 10 copies.



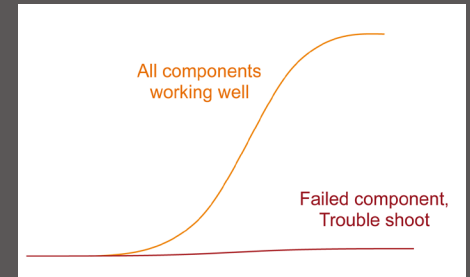
## Internal control

Internal extraction control confirms that the DNA extraction process was successful. Exogenous DNA is spiked into the lysis buffer.



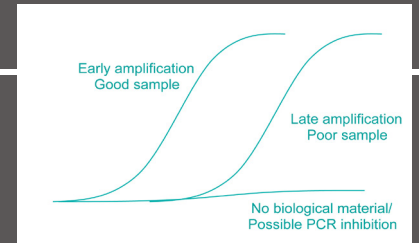
## Positive control

Positive control confirms all conditions and reagents are working well. A high-concentration standard is used as positive control.



## Endogenous control

- Endogenous control confirms quality of biological sample.
- Beta-actin confirms that a valid biological template was extracted.
- A primer and probe mix is included to detect Beta-actin through the FAM channel.
- Poor Beta-actin signal may indicate the sample did not contain sufficient biological material.





## Veterinary and Agriculture

Many topical and geographically important tests have been developed to allow producers and companion animal owners/veterinarians to screen animals quickly and with the high sensitivity of qPCR. Within the veterinary and agricultural range of pathogens detection kits are diseases and infections which can have significant economic impact.

Without Mastermix	With Mastermix	Description			
<b>Avian</b>					
93945-72	93945-74	DNA, Acinetobacter baumannii	93948-49	93948-50	RNA, Crimean-Congo Haemorrhagic Fever virus
-	93946-08	DNA, Aspergillus fumigatus	93945-79	16229-43	DNA, All Encephalitozoon species
93947-84	16230-76	QPCR Kit, RNA, Avian Infectious Bronchitis virus (IBV)	93946-75	93946-76	DNA, Enterocytozoon bienersi v2.0
93947-90	93947-91	RNA, Avian Influenza A virus Subtype H7	93946-77	93946-78	DNA, Escherichia coli
93947-92	93947-93	RNA, Avian Influenza A virus Subtype H7N9	93940-76	93940-77	DNA, Escherichia coli O104:H4
93947-94	93947-95	RNA, Avian Influenza A virus Subtype H9	93946-87	16226-07	DNA, Giardia intestinalis
93947-96	93947-97	RNA, Avian orthoreovirus	93946-95	93946-96	DNA, Leptospirosis
93947-98	16230-13	DNA, Beak and Feather Disease virus	93947-10	93947-11	DNA, Mycobacterium avium subspecies paratuberculosis
93946-39	93946-40	DNA, Burkholderia mallei	93947-16	93947-17	DNA, Mycoplasma bovis
93946-49	93946-50	DNA, Campylobacter Jejuni	93950-37	93950-38	RNA, Rift Valley Fever virus
16230-28	16230-29	DNA, Chicken anemia virus	93948-99	16229-59	RNA, Rotavirus A
93946-61	93946-62	DNA, Chlamydomphila psittaci	16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli
93948-47	93948-48	DNA, Columbid herpes virus 1	93947-48	93947-49	DNA, Streptococcus agalactiae
93946-69	93946-70	DNA, Coxiella burnetii	93947-64	93947-65	DNA, Theileria parva
93948-61	93948-62	DNA, Duck Hepatitis B virus	93947-70	93947-71	DNA, Tritrichomonas foetus
93946-75	93946-76	DNA, Enterocytozoon bienersi v2.0	16231-72	16231-73	RNA, Vesicular stomatitis virus
93946-77	93946-78	DNA, Escherichia coli	<b>Ovine/caprine</b>		
-	93946-80	DNA, Escherichia coli O157:H7 v2.0	93946-03	93946-04	DNA, Anaplasma phagocytophilum
93948-91	93948-92	DNA, Fowlpox virus	93948-11	16230-20	RNA, Bluetongue virus 1
93948-93	93948-94	DNA, Gallid herpes virus 1	93948-13	16230-22	RNA, Bluetongue virus 8
93947-92	93947-93	RNA, Avian Influenza A virus Subtype H7N9	93946-45	93946-46	DNA, Campylobacter fetus
93950-04	93950-05	RNA, Infectious Bursal Disease virus (IBDV)	93948-41	16230-27	DNA, Capripoxvirus
93946-97	93946-98	DNA, Listeria monocytogenes	93946-69	93946-70	DNA, Coxiella burnetii
93947-08	-	DNA, Mycobacterium avium	93948-49	93948-50	RNA, Crimean-Congo Haemorrhagic Fever virus
93947-20	93947-21	DNA, Mycoplasma gallisepticum	93946-75	93946-76	DNA, Enterocytozoon bienersi v2.0
93950-20	93950-22	RNA, Newcastle disease virus	93946-77	93946-78	DNA, Escherichia coli
93947-34	93947-35	DNA, Ornithobacterium rhinotracheale	93940-76	93940-77	DNA, Escherichia coli O104:H4
93950-37	93950-38	RNA, Rift Valley Fever virus	93946-95	93946-96	DNA, Leptospirosis
93948-99	16229-59	RNA, Rotavirus A	93946-97	93946-98	DNA, Listeria monocytogenes
93947-38	93947-39	DNA, Salmonella enterica	93947-10	93947-11	DNA, Mycobacterium avium subspecies paratuberculosis
93945-87	93945-88	DNA, All pathogenic Salmonella species	93950-23	93950-24	RNA, Peste-des-petits-ruminants virus
93947-42	93947-43	DNA, Shiga toxin (stx1) producing Escherichia coli	93950-37	93950-38	RNA, Rift Valley Fever virus
16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli	93948-99	16229-59	RNA, Rotavirus A
93948-23	93948-24	DNA, Budgerigar Fledgling Disease Virus (avian polyomavirus)	93947-38	93947-39	DNA, Salmonella enterica
<b>Bovine</b>					
93946-03	93946-04	DNA, Anaplasma phagocytophilum	93945-87	93945-88	DNA, All pathogenic Salmonella species
93946-19	93946-20	DNA, Bacillus anthracis	93950-47	93950-48	DNA, Sheep Poxvirus
93948-11	16230-20	RNA, Bluetongue virus 1	16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli
93948-13	16230-22	RNA, Bluetongue virus 8	93947-48	93947-49	DNA, Streptococcus agalactiae
93948-15	93948-16	DNA, Bovine herpesvirus 1	<b>Equine</b>		
93948-17	93948-18	RNA, Bovine Leukemia virus	93947-78	93947-79	RNA, African Horse Sickness virus
93946-35	93946-36	DNA, Brucella abortus	16230-00	93946-16	DNA, Babesia caballi
93946-45	93946-46	DNA, Campylobacter fetus	93946-57	93946-58	DNA, Chlamydomphila abortus
93946-49	93946-50	DNA, Campylobacter Jejuni	93945-79	16229-43	DNA, All Encephalitozoon species
93946-57	93946-58	DNA, Chlamydomphila abortus	93946-75	93946-76	DNA, Enterocytozoon bienersi v2.0
93946-61	93946-62	DNA, Chlamydomphila psittaci v2.0	93948-65	93948-66	DNA, Equid Herpesvirus 1
93946-69	93946-70	DNA, Coxiella burnetii	93948-67	93948-68	DNA, Equid Herpesvirus 3
			93948-69	93948-70	DNA, Equid Herpesvirus 4
			93948-73	93948-74	RNA, Equine infectious anemia virus
			93946-95	93946-96	DNA, Leptospirosis

Without Mastermix	With Mastermix	Description	93947-32	93947-33	DNA, Neospora caninum
			93950-27	93950-28	DNA, Porcine circovirus 2
			93948-99	16229-59	RNA, Rotavirus A
93950-37	93950-38	RNA, Rift Valley Fever virus	93947-38	93947-39	DNA, Salmonella enterica
93948-99	16229-59	RNA, Rotavirus A	93945-87	93945-88	DNA, All pathogenic Salmonella species
93947-48	93947-49	DNA, Streptococcus agalactiae	93947-48	93947-49	DNA, Streptococcus agalactiae
16231-97	10095-67	DNA, Streptococcus equi subspecies equi	93947-42	93947-43	DNA, Shiga toxin (stx1) producing Escherichia coli
93947-60	93947-61	DNA, Theileria equi	16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli
93948-75	93948-76	RNA, Equine/Canine influenza (H3N8 & H7N7)	93950-29	93950-32	RNA, Porcine epidemic diarrhoea virus
16231-72	16231-73	RNA, Vesicular stomatitis virus	16231-72	16231-73	RNA, Vesicular stomatitis virus
<b>Feline</b>			<b>Piscean</b>		
93946-25	93946-26	DNA, Bartonella henselae	93948-57	93948-58	DNA, Cyprinid herpes virus 3
16230-00	93946-16	DNA, Babesia caballi	93946-75	93946-76	DNA, Enterocytozoon bienewisi v2.0
93946-31	93946-32	DNA, Bordetella Bronchiseptica & Bordetella Parapertussis	93950-06	93950-07	RNA, Infectious Hematopoietic Necrosis virus
			93947-14	93947-15	DNA, Mycobacterium marinum and ulcerans
93946-59	93946-60	DNA, Chlamydomphila felis	93950-56	93950-60	RNA, Spring Viremia of Carp virus
93945-79	16229-43	DNA, All Encephalitozoon species	93950-71	16231-35	RNA, Viral Hemorrhagic Septicemia virus
93946-75	93946-76	DNA, Enterocytozoon bienewisi v2.0	<b>Others</b>		
93948-79	10095-43	RNA, Feline coronavirus	93947-80	93947-81	DNA, Aleutian Disease virus
93948-81	93948-82	DNA, Feline Herpesvirus	93946-33	93946-34	DNA, Botrytis cinerea
93948-83	93948-84	RNA, Feline Immunodeficiency virus v2.0	93948-25	93948-26	DNA, Camel pox virus
93948-85	93948-86	RNA, Feline Leukemia virus	-	93948-52	DNA, Cryptococcus neoformans
93946-87	16226-07	DNA, Giardia intestinalis	93948-63	93948-64	RNA, Epizootic Hemorrhagic Disease virus
93946-95	93946-96	DNA, Leptospirosis	93946-81	93946-82	DNA, Francisella tularensis
93947-18	10095-52	DNA, Mycoplasma felis	93950-65	93950-66	RNA, Tai Forest Ebola virus
93947-22	93947-23	DNA, Mycoplasma haemofelis	93947-28	-	DNA, Mycoplasma species haemofelis & haemocanis
93948-99	16229-59	RNA, Rotavirus A	93947-32	93947-33	DNA, Neospora caninum
93947-48	93947-49	DNA, Streptococcus agalactiae	93950-27	93950-28	DNA, Porcine circovirus 2
93947-66	10095-31	DNA, Toxoplasma gondii	93948-99	16229-59	RNA, Rotavirus A
93947-70	93947-71	DNA, Tritrichomonas foetus	93947-38	93947-39	DNA, Salmonella enterica
-	16232-00	DNA, Carnivore protoparvovirus 1	93945-87	93945-88	DNA, All pathogenic Salmonella species
<b>Canine</b>			93947-48	93947-49	DNA, Streptococcus agalactiae
-	93946-08	DNA, Aspergillus fumigatus	93947-42	93947-43	DNA, Shiga toxin (stx1) producing Escherichia coli
93946-31	93946-32	DNA, Bordetella Bronchiseptica & Bordetella Parapertussis	16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli
			93946-55	16229-28	RNA, Chlamydiae (all species)
16230-25	10095-35	DNA, Canine Babesiosis	93940-39	93940-40	DNA, Fusarium (all species)
93948-33	93948-34	RNA, Canine Distemper virus	<b>Piscean</b>		
93948-35	93948-36	DNA, Canine herpes virus	93948-57	93948-58	DNA, Cyprinid herpes virus 3
93948-37	93948-38	RNA, Canine Norovirus	93946-75	93946-76	DNA, Enterocytozoon bienewisi v2.0
93948-39	93948-40	RNA, Canine parainfluenza virus	93950-06	93950-07	RNA, Infectious Hematopoietic Necrosis virus
93945-79	16229-43	DNA, All Encephalitozoon species	93947-14	93947-15	DNA, Mycobacterium marinum and ulcerans
93946-75	93946-76	DNA, Enterocytozoon bienewisi v2.0			RNA, Spring Viremia of Carp virus
93946-87	16226-07	DNA, Giardia intestinalis	93950-56	93950-60	RNA, Viral Hemorrhagic Septicemia virus
93946-89	93946-90	DNA, Leishmania infantum	93950-71	16231-35	DNA, Aleutian Disease virus
93946-95	93946-96	DNA, Leptospirosis	93947-80	93947-81	DNA, Botrytis cinerea
93947-18	10095-52	DNA, Mycoplasma felis	93946-33	93946-34	DNA, Camel pox virus
93947-22	93947-23	DNA, Mycoplasma haemofelis	93948-25	93948-26	DNA, Cryptococcus neoformans
93947-28	-	DNA, Mycoplasma species haemofelis & haemocanis	-	93948-52	RNA, Epizootic Hemorrhagic Disease virus
93947-32	93947-33	DNA, Neospora caninum	93948-63	93948-64	DNA, Francisella tularensis
93948-99	16229-59	RNA, Rotavirus A	93946-81	93946-82	RNA, Tai Forest Ebola virus
93947-48	93947-49	DNA, Streptococcus agalactiae	93950-65	93950-66	
93948-75	93948-76	RNA, Equine/Canine influenza (H3N8 & H7N7)			
93948-27	93948-28	DNA, Canine adenovirus 1			
93948-29	93948-30	DNA, Canine adenovirus 2			
93948-33	93948-32	RNA, Canine coronavirus			
-	16232-00	DNA, Carnivore protoparvovirus 1			
93946-71	93946-72	DNA, Ehrlichia canis			
<b>Porcine</b>					
93946-49	93946-50	DNA, Campylobacter Jejuni			
93946-57	93946-58	DNA, Chlamydomphila abortus			
93945-79	16229-43	DNA, All Encephalitozoon species			
93946-75	93946-76	DNA, Enterocytozoon bienewisi			
93946-77	93946-78	DNA, Escherichia coli			
93940-76	93940-77	DNA, Escherichia coli O104:H4			
93946-95	93946-96	DNA, Leptospirosis			
93947-28	-	DNA, Mycoplasma species haemofelis & haemocanis			

## Biothreat

A small list of detection kits aimed at detecting some particularly harmful viruses and bacteria such as Rift Valley Virus and E.coli 0157.

### Biothreat

93946-19	93946-20	DNA, Bacillus anthracis
93946-39	93946-40	DNA, Burkholderia mallei
93946-61	93946-62	DNA, Chlamydomphila psittaci v2.0
93945-95	-	DNA, All Clostridium perfringens species
93946-69	93946-70	DNA, Coxiella burnetii
-	93946-80	DNA, Escherichia coli 0157:H7 v2.0
93946-81	93946-82	DNA, Francisella tularensis
93950-37	93950-38	RNA, Rift Valley Fever virus
-	93950-68	DNA, Vaccinia virus
16232-63	93946-52	DNA, C.M.Haemominutum
16232-64	93946-54	DNA, C.M.turicensis
93948-51	-	DNA, Cryptococcus neoformans
-	93945-96	DNA, Alpha toxin producing Clostridium perfringens



## Food and water

With ever increasing demands for clarity on the source, whether a food type has been genetically modified or not and type of products we are consuming speciation and pathogen detection kits have been generated to allow users to do exactly that.

Without Mastermix	With Mastermix	Description	93945-87	93945-88	DNA, Shewanella putrefaciens
			93947-42	93947-43	DNA, Shiga toxin (stx1) producing Escherichia coli
			16226-00	16226-01	DNA, Shiga toxin (stx2b) producing Escherichia coli
			93941-59	93941-60	DNA, Staphylococcus aureus
			93945-91	93945-92	DNA, All Vibrio cholerae subspecies
			93945-93	93945-94	DNA, All Vibrio species v2.0
			<b>Others</b>		
			93941-97	93941-98	DNA, Bifidobacterium bifidum
<b>Meat Speciation kits</b>					
93944-64	93944-65	DNA, Bos taurus (bovine/beef)			
93944-84	93944-85	DNA, Gallus gallus (chicken)			
93944-56	93944-57	DNA, Anas platyrhynchos (duck)			
93944-70	93944-71	DNA, Capra hircus (goat)			
-	16225-25	DNA, Melanogrammus aeglefinus (haddock)			
93944-78	93944-79	DNA, Equus caballus (horse)			
93945-52	16225-51	DNA, Sus scrofa (pig/pork)			
93944-98	93944-99	DNA, Ovis aries (sheep)			
93944-92	93944-93	DNA, Meleagris gallopavo (turkey)			
93945-60	93945-62	DNA, Universal meat detection			
<b>Fish Speciation kits</b>					
-	16225-25	DNA, Melanogrammus aeglefinus (haddock)			
-	16225-21	DNA, Gadus morhua (cod)			
93945-56	93945-58	DNA, Universal fish detection			
<b>Pathogen contamination</b>					
93946-37	93946-38	DNA, Brucella genus (All species)			
93946-49	93946-50	DNA, Campylobacter Jejuni			
93946-65	16224-62	DNA, Clostridium estertheticum			
93945-95	-	DNA, All Clostridium perfringens species			
93946-69	93946-70	DNA, Coxiella burnetii			
93948-49	93948-50	RNA, Crimean-Congo Haemorrhagic Fever virus			
93941-51	93941-52	DNA, Enterococcus faecalis			
93946-77	93946-78	DNA, Escherichia coli			
-	93946-80	DNA, Escherichia coli O157:H7 v2.0			
93946-23	93946-24	DNA, Eubacteria Bacteria Domain			
93946-81	93946-82	DNA, Francisella tularensis			
93946-87	16226-07	DNA, Giardia intestinalis			
93942-36	16225-67	RNA, Hepatitis A virus			
93942-44	93942-45	RNA, Hepatitis E virus			
93943-99	93944-01	DNA, JC virus v2.0			
93940-94	16228-02	DNA, Legionella pneumophila			
93945-81	93945-82	DNA, All Legionella species			
-	93946-98	DNA, Listeria monocytogenes			
93947-10	93947-11	DNA, Mycobacterium avium subspecies paratuberculosis			
93945-83	68001-21	DNA, All Naegleria species			
-	16225-75	RNA, Norovirus genotypes 1 and 2 v2.0			
93941-48	93941-49	DNA, Pseudomonas aeruginosa			
93947-38	93947-39	DNA, Salmonella enterica			
93945-87	93945-88	DNA, All pathogenic Salmonella species			

## Also available

### QPCR-500 Real time system

The QPCR-500 real time system is a high specification, economically priced real time thermal cycler that accommodates a unique 48-well polypropylene PCR plate utilising the same geometry as standard 384-well plates, but only 1/8 of the size. This enables users to dramatically reduce the qPCR reagent volumes compared to traditional 96-well instruments, saving users precious sample, whilst still producing a strong fluorescence signal. Minimizing the plate size also significantly improves thermal uniformity. A minimum volume of 5µl is validated, resulting in a more efficient use of expensive and 'hard to acquire' template DNA samples.

The QPCR-500 Real-time system offers the qPCR capabilities of larger instruments in a compact, accurate footprint. Innovative features include a precise thermal system for unrivalled temperature control, an advanced optical system for highly sensitive fluorescence detection, a 48-well plate for flexible sample throughput, and intuitive, icon-driven software for error-free instrument operation.



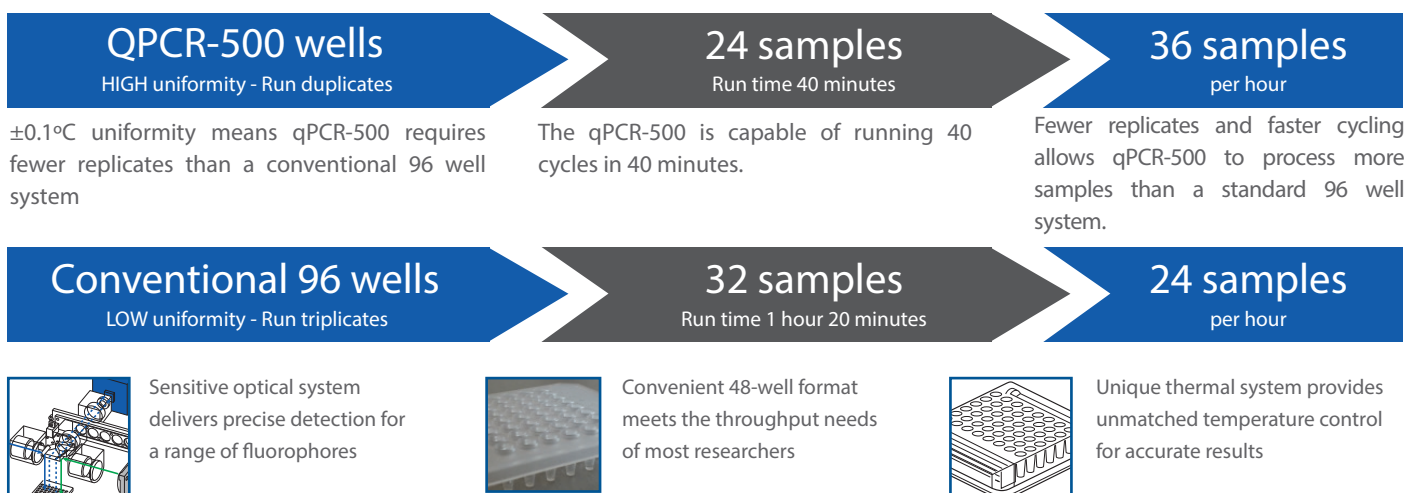
## Key features

- MIQE compliant.
- HRM functionality is provided as standard and can discriminate class IV SNP 99.9% of the time.
- The Eco 48 can utilise four colours for easy multiplexing.
- Industry leading  $\pm 0.1^{\circ}\text{C}$  temperature uniformity (recorded at  $95^{\circ}\text{C}$  no settle time).
- High uniformity provides high quality data.
- Fast cycling enables several experiments per day, all at an economical price.
- Fastest block-based real-time PCR system with the ability to run 40 cycles in 20 minutes (or less when optimised).
- The Eco 48 is an open platform that can utilise any chemistry, dye or PCR reagent.
- Calibrated for SYBR<sup>®</sup>, FAM<sup>™</sup>, HEX<sup>™</sup>, VIC<sup>™</sup>, ROX<sup>™</sup> and Cy<sup>5</sup> fluorescent dyes.
- Easy to use software, streamlined for novices and experts.
- No need to run triplicates, to compensate for poor thermal uniformity of block.

## Do more, with less

Description	Item no.
Cole-Parmer QPCR-500 Real Time qPCR System, 48 well	93947-00

Results from multiple instruments can be combined together



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