

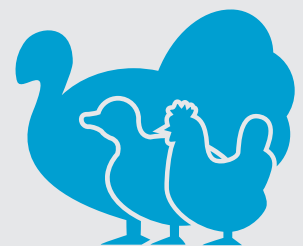
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Kylt[®]

Livestock Diagnostic Products for Poultry

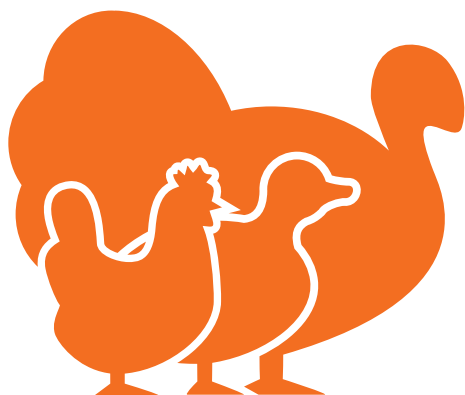
Kylt[®] Professional *in vitro*
Diagnostic Solutions



www.kylt.eu

2019/2020

Kylt® Real-Time (RT-) PCR assays for Poultry



Kylt® provides veterinary diagnostic laboratories with products for the highly sensitive and precise detection of pathogens affecting livestock as well as products for the subsequent characterization of these pathogens.

Kylt® products are developed and manufactured in Germany by veterinary diagnostic experts and are put through rigorous tests in our own daily high-throughput diagnostic routine with samples from all over the world.

Why Kylt® is the best choice for you

At Kylt® we pride ourselves on supplying easy-to-use products, excellent customer service and the broadest range of assays available on the market today.

We consistently review and update our products and expand our product range to include newly appearing strains and meet upcoming diagnostic needs.

To enable the convenient and economic combination of Real-Time PCR assays in a single run, nearly all Kylt® assays can be run with our universal Kylt® Standard profile for both Real-Time PCR and Real-Time RT-PCR. This saves time, reduces use of consumables

and minimizes the blocking of laboratory infrastructure. In addition, all our detection products use the same pipetting volumes.

All Real-Time PCR cyclers available on the market are compatible with the Kylt® product range, no specialized hardware or software is necessary.

Of course the whole process at Kylt®, including R&D, production, storage and shipment as well as customer support is certified according to ISO 9001. Furthermore, certain kits are registered at the German federal authority, Friedrich Loeffler Institut (FLI), as well as in diverse other countries.



Kylt® Training

In regular intervals we provide an in-depth training for our customers at our site in Germany. This two-day training in small groups teaches the fundamentals for using Real-Time PCR in veterinary diagnostic applications from the sampling to the result. Learn in

small groups and prepare your own samples and run your own tests. Discuss with like-minded experts from all around the world and the Kylt® team directly. For more information, please contact us at training@kylt.eu.

Kylt® Software

With the ongoing development and expansion of our Kylt® product catalogues and increasing complexity of, especially multiplexed, assays as well as various settings for different Real-Time PCR cyclers, you may hesitate to introduce Real-Time PCR in your laboratory. For these issues we have developed our Kylt® Software to simplify entering sample data, transferring

assay settings and evaluating the results, as well as accredited documentation, reporting and LIMS-connection. We recently updated to version 3.1 with new features, please contact us for further information including supported qPCR cyclers at support@kylt.eu.

Regulatory information and availability

All Kylt® products are available as detection Kits, with all necessary components included. The availability of the products depends on the specific regulatory environment in your country. If you need more information on our Kylt® products and their

availability in your region, or if you have a specific demand for a product not listed please visit us on www.kylt.eu or contact us at support@kylt.eu.

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Kylt® Real-Time (RT-) PCR Setup

Kylt® Real-Time (RT-) PCR Kits comprise all reagents including controls, enzyme mixes and pathogen-specific primers and probes for an accurate pathogen detection. Particular products come including DNA Extraction-Mix, please check for correspondent sign in the tables below: 

Kylt® Real-Time (RT-) PCR products comprise control reagents to prove the validity of the assay. Pathogen specific Positive Controls help monitor the efficiency of the assay. With the Negative Control any contamination of the kit components or used consumables can be ruled out.

The products are additionally provided with Internal Controls to verify sufficient sampling, correct sample preparation and the overall Real-Time PCR run. The validity check of the assay can be supplemented using further Kylt® control assays listed on page 11. For more information, please contact us at support@kylt.eu.




Kylt® Real-Time (RT-) PCR setups work with commonly used fluorescent dyes FAM, HEX, Cy5 and TXR. For detailed information about channels needed for the individual products, please visit us on www.kylt.eu.

Kylt® Bacterial Pathogens and Parasites

Tested Parameter	Rxn	Art.-No.			
Bordetella avium	100	31441	X	X	
	25	31442			
Brachyspira spp. *	100	31199	X	X	X
	25	31200			
Campylobacter spp.	100	31402	X	X	X
	25	31403			
Chlamydiaceae Screening	100	31647	X	X	X
	25	31648			
Chlamydophila abortus	100	31649	X	X	X
	25	31650			
Chlamydophila avium	100	31641	X		
	25	31642			
Chlamydophila gallinacea	100	31643	X	X	X
	25	31644			
Chlamydophila psittaci	100	31637	X	X	X
	25	31638			
Clostridium difficile Toxin Genes A & B	100	31320	X	X	
	25	31321			
Clostridium perfringens Major: cpa, cpep, cpb, cpi & Minor: netB, cpen, cpb2 Toxin Genes	100	31034	X	X	X
	25	31035			
Escherichia coli screening	100	31316	X	X	X
	25	31317			
Erysipelothrix spp. (Genus-specific) & E. rhusiopathiae (Species-specific)	100	31770	X	X	X
	25	31771			
Histomonas meleagridis	100	31416	X	X	
	25	31417			
Mycoplasma series	please refer to page 5				
Ornithobacterium rhinotracheale	100	31030	X	X	
	25	31031			
Pasteurella multocida Separate species-specific as well as toxA gene detection	100	31334	X	X	X
	25	31335			
Riemerella anatipestifer	100	31032		X	X
	25	31033			
Salmonella spp. Licensed by Friedrich-Loeffler-Institute (FLI-B 656); ISO 16140 validated	100	31019	X	X	X
SE DIVA 1 Salmonella Enteritidis DIVA [#] 441/041 (ade-/his-) ¹	100	31159	X	X	
	25	31160			
SE DIVA 2 Salmonella Enteritidis DIVA [#] Sm24/Rif12/Ssq ²	100	31161	X	X	
	25	31162			
ST DIVA 1 Salmonella Typhimurium DIVA [#] ST-Mutant (Histidin-Adenin-auxotroph) ³	100	31855	X	X	
	25	31856			

* please refer to section "Kylt® Real-Time (RT-) PCR controls" on page 11 for further information on available **Kylt® Quantitative Standards**.




Kylt® Mycoplasma Series

Tested Parameter	Rxn	Art. -No.			
Mycoplasma gallisepticum and Mycoplasma synoviae MGS Triplex	100	31020	X	X	X
	25	31021			
Mycoplasma gallisepticum	100	31022	X	X	X
	25	31023			
Mycoplasma gallisepticum DIVA [#] 6/85 & F-strain ⁴	100	31197	X	X	
	25	31198			
Mycoplasma gallisepticum DIVA [#] ts-11 ⁵	100	31410	X	X	
	25	31411			
Mycoplasma iowae	100	31026	X	X	
	25	31027			
Mycoplasma meleagridis	100	31028	X	X	
	25	31029			
Mycoplasma synoviae	100	31024	X	X	X
	25	31025			
Mycoplasma synoviae DIVA [#] MS-H ⁵	100	31134	X	X	
	25	31135			
Mycoplasma synoviae DIVA [#] MS1 ⁶	100	31412	X	X	
	25	31413			

[#] **DIVA** - differentiating infected from vaccinated animals - allows for differentiation of defined vaccine strains from field strains.

- 1) Strain used in live vaccine products provided by Merial and IDT.
- 2) Strain used in live vaccine products provided by ELANCO/ Lohmann Animal Health.
- 3) Strain used in live vaccine products provided by IDT.
- 4) Strain used in diverse live vaccine products provided by e.g. Ceva, Elanco, MSD and Zoetis (non-exhaustive).
- 5) Strain used in live vaccine products provided by Bioproperties.
- 6) Strain used in live vaccine products provided by MSD/Intervet.

Kylt® Viral Pathogens




Tested Parameter	Rxn	Art.-No.			
Avian Encephalomyelitis Virus	100	31835	X	X	
	25	31836			
Avian Hepatitis E Virus (aHEV), Hepevirus, Big Liver and Spleen Disease Virus (BLSD)	100	31100	X		
	25	31101			
Avian Metapneumovirus Subtype A & B (TRT, ART)	100	31072	X	X	X
	25	31073			
Avian Metapneumovirus Subtype C (TRT, ART)	100	31074	X	X	X
	25	31075			
Avian Metapneumovirus Subtype D (TRT, ART)	100	31076		X	
	25	31077			
Avian Nephritis Virus	100	31098	X		
	25	31099			
Avian Reovirus	100	31209	X	X	X
	25	31210			
Avian Rotavirus A & D	100	31104	X	X	X
	25	31105			
Chicken Anaemia Virus	100	31758	X		
	25	31759			
Chicken Astrovirus Group A & B	100	31181	X		
	25	31182			
Fowl Adenovirus	100	31744	X		
	25	31745			
Fowlpox Virus	100	31694	X	X	X
	25	31695			
Goose Polyomavirus	100	31414			X
	25	31415			
Infectious Bronchitis Virus <i>series</i>	please refer to page 7				
Infectious Bursal Disease Virus (Gumboro) Pathotyping Differentiation of vv / intermediate plus strains vs. intermediate / nv strains	100	31443	X	X	
	25	31444			
Infectious Laryngotracheitis Virus (ILT), Gallid Herpesvirus (GaHV-1)	100	31639	X		
	25	31640			
Influenza Virus <i>series</i>	please refer to page 8				
Marek's Disease Virus (MDV) detection & DIVA [#] Rispens ⁷	100	31645	X	X	
	25	31646			
Muscovy Duck Parvovirus and Goose Parvovirus Screening	100	31138			X
	25	31139			
Muscovy Duck Parvovirus and Goose Parvovirus Typing	100	31171			X
	25	31172			
Goose Parvovirus - DIVA 1 [#] Hoekstra ⁸	100	31175			X
	25	31176			

[#] **DIVA** - differentiating infected from vaccinated animals - allows for differentiation of defined vaccine strains from field strains.

7) Strain Rispens / CVI 988 used in live vaccine products provided by several manufacturers

8) Strain used in live vaccine products provided by Merial and IDT.




Kylt® Viral Pathogens - continued

Tested Parameter	Rxn	Art. -No.			
Avian Paramyxovirus 1 Newcastle Disease Virus (NDV)	100	31151	X	X	X
	25	31152			
Avian Paramyxovirus 1 Pathotyping (NDV); Differentiation of lentogenic vs. meso-/velogenic strains	100	31750	X	X	X
	25	31751			
recHVT DIVA# 1 ⁹ Detection of recombinant HVT vaccine strains	100	31851	X		
	25	31852			
Reticuloendotheliosis Virus (REV)	100	31424	X	X	X
	25	31425			
Turkey Hemorrhagic Enteritis Virus	100	31754		X	
	25	31755			
Turkey Viral Hepatitis Picornaviridae	100	31102	X	X	
	25	31103			

DIVA - differentiating infected from vaccinated animals - allows for differentiation of defined vaccine strains from field strains.

9) Strain used in live vaccine products provided by MSD and BI/Merial.

Kylt® Infectious Bronchitis Series

Tested Parameter	Rxn	Art. -No.			
Infectious Bronchitis Virus and further avian Coronaviruses (incl. TuCV) * (IB-aCoV)	100	31193	X	X	
	25	31194			
Infectious Bronchitis Virus - Variant 4/91 / 793B / CR88	100	31082	X		
	25	31083			
Infectious Bronchitis Virus - Variant Massachusetts	100	31084	X		
	25	31085			
Infectious Bronchitis Virus - Variant D274	100	31086	X		
	25	31087			
Infectious Bronchitis Virus - Variant Arkansas	100	31088	X		
	25	31089			
Infectious Bronchitis Virus - Variant Italy02	100	31090	X		
	25	31091			
Infectious Bronchitis Virus - Variant D1466	100	31092	X		
	25	31093			
Infectious Bronchitis Virus - Variant QX	100	31094	X		
	25	31095			
Infectious Bronchitis Virus - Variant O2	100	31187	X		
	25	31188			
Infectious Bronchitis Virus - Variant Q1	100	31179	X		
	25	31180			
Infectious Bronchitis Virus - Variant IB80	100	31736	X		
	25	31737			
Bundle of IB-aCoV and all 10 IBV variants	100	31300	X		

* please refer to section "Kylt® Real-Time (RT-) PCR controls" on page 11 for further information on available **Kylt® Quantitative Standards**.

Kylt® Influenza Type A Series

Tested Parameter	Rxn	Art.-No.			
Influenza Virus Type A (exogenous control, IC-RNA) * Licensed by Friedrich-Loeffler-Institute (FLI-B 672)	100	31068	X	X	X
	25	31069			
Influenza Virus Type A (endogenous control, β -Actin) * Licensed by Friedrich-Loeffler-Institute (FLI-C 024)	100	31163	X	X	X
	25	31164			
Influenza Virus Type A - H5N1	100	31778	X	X	X
	25	31779			
Influenza Virus Type A - H9N2	100	31740	X	X	X
	25	31741			
Influenza Virus Type A H1	100	31774	X	X	X
	25	31775			
Influenza Virus Type A H3	100	31859	X	X	X
	25	31860			
Influenza Virus Type A H5	100	31368	X	X	X
	25	31369			
Influenza Virus Type A H6	100	31861	X	X	X
	25	31862			
Influenza Virus Type A H7	100	31370	X	X	X
	25	31371			
Influenza Virus Type A H9	100	31070	X	X	X
	25	31071			
Influenza Virus Type A N1	100	31374	X	X	X
	25	31375			
Influenza Virus Type A N2	100	31792	X	X	X
	25	31793			
Influenza Virus Type A N3	100	31784	X	X	X
	25	31785			
Influenza Virus Type A N5	100	31796	X	X	X
	25	31797			
Influenza Virus Type A N8	100	31788	X	X	X
	25	31789			

* please refer to section "Kylt® Real-Time (RT-) PCR controls" on page 11 for further information on available **Kylt® Quantitative Standards**.

KyIt® Conventional (RT-)PCR (requires Agarose Gel Electrophoresis)

Tested Parameter	Rxn	Art. -No.			
Avian Pathogenic Escherichia Coli (APEC) 8 x Virulence Factors ExM	100	31046	X	X	X
	25	31047			
Avibacterium paragallinarum Infectious Coryza	100	31048	X		
	25	31049			
Salmonella Gallinarum & Pullorum (separate detection) & DIVA [#] strain 9R ¹⁰	100	31420	X	X	
	25	31421			
Duck Baiyangdian Virus (BYDV), Flaviviridae	100	31120			X
	25	31121			
Duck Circovirus & Goose Circovirus Species-specific	100	31062			X
	25	31063			
Duck Enteritis Virus Anatid Herpesvirus 1	100	31140			X
	25	31141			
Duck Hepatitis Virus (DHV-1), Picornaviridae	100	31122			X
	25	31123			
Egg Drop Syndrome Virus (EDS76), 127-like, Duck Adenovirus	100	31064	X		X
	25	31065			
Fowl Adenovirus Group I	100	31144	X	X	
	25	31145			
Turkey Astrovirus Differentiation of type 1 and type 2	100	31136		X	
	25	31137			

[#] **DIVA** - differentiating infected from vaccinated animals - allows for differentiation of defined vaccine strains from field strains.

10) Strain Salmonella Gallinarum 9R used in live vaccine products provided by several manufacturers.

Kylt® DIVA Products

Differentiating **I**nfected from **V**accinated **A**nimals (DIVA) allows for detection of a specific vaccine strain and differentiating it from field strains of the according pathogen in one reaction setup. By using the DIVA principle, challenges in interpretation of “false”, i.e. potentially clinical irrelevant signals due to the presence of vaccine strains in the sample are a matter of the past.

Pathogen	DIVA-PCR-Test System	Vaccine Supplier	Commercial Name*	Rxn	Art.-No.
Mycoplasma synoviae	MS-H DIVA	Bioproperties	Vaxsafe® MS	100	31134
				25	31135
	MS1 DIVA	MSD	Nobilis® MS Live	100	31412
				25	31413
Mycoplasma gallisepticum	MG 6/85 DIVA	several products		100	31197
				25	31198
	MG ts-11 DIVA	Merial	MG TS-11	100	31410
				25	31411
Salmonella Enteritidis	SE DIVA 1	IDT	Salmovac® SE Salmovac® 440 Gallivac® SE	100	31159
				25	31160
	SE DIVA 2	LAH/Elanco	AviPro® Salmonella Vac E AviPro® Salmonella DUO	100	31161
				25	31162
Salmonella Gallinarum	SGP & 9R DIVA	several products		100	31420
				25	31421
Salmonella Typhimurium	ST DIVA 1	IDT	Zoosaloral H Zoosal T	100	31855
				25	31856
HVT + NDV + IBDV	recHVT DIVA 1	MSD	Innovax® ND IBD	100	31851
				25	31852
HVT + IBDV	recHVT DIVA 1	Merial	VAXXITEK® HVT + IBD	100	31851
				25	31852
Marek / MDV	MDV & Rispens DIVA	several products		100	31645
				25	31646
Muscovy Duck / Goose Parvovirus	Parvo DIVA 1	Merial	Palmivax® and Parvokan® (strain Hoekstra)	100	31175
				25	31176

* Non-exhaustive list of products; the respective vaccine strain may also be available in your region in another product and/or with another brand name.

Kylt® Nucleic Acid Preparation

Kylt® RNA / DNA Purification Kits are intended for the purification of high quality RNA and DNA from a vast variety of veterinary sample matrices or from pure bacterial or viral culture isolates. The spin-column based kit is intended for manual application in low- to medium-throughput. The magnetic bead based kit can be automated on any magnetic bead processor or almost all liquid handlers for medium- to high-throughput. Please inquire for application support.

Kylt® DNA Extraction-Mixes are intended for simplified and economic DNA extraction from pure bacterial isolates or bacterial enrichments only.

Product	Rxn	Art.-No.
RNA / DNA Purification Kit	5x 50	31314
Combined RNA and DNA purification from veterinary samples (spin-column based)	50	31315
RNA / DNA Purification Kit HTP	4x 96	31826
Combined RNA and DNA purification from veterinary samples (magnetic bead based)		
DNA Extraction-Mix II	100	31398
DNA Extraction from pure bacterial isolates or bacterial enrichments		
DNA Extraction-Mix III	100	31404
DNA Extraction as above from gram-positive bacteria (e.g. <i>Listeria monocytogenes</i>)		

Kylt® Enzyme Mixes

comprise outstanding performance and stability, including Real-Time PCR with or without Reverse Transcription.

Product	Rxn	Art.-No.
Kylt® 2x qPCR-Mix 2 x concentrated PCR Mix for Real Time PCR	100	31867
Kylt® 2x RT-qPCR-Mix 2 x concentrated PCR Mix for one-step Real-Time RT-PCR	100	31868

Kylt® Real-Time (RT-)PCR Controls

are available as needed. Kylt® Standards support pathogen quantification of respective samples. By this, together with defined cut-off values, the clinical relevance of detected pathogens can be evaluated.

Product	Rxn	Art.-No.
Host Cells	100	31106
Detection of both host's beta-actin mRNA and spiked Internal Control RNA, Control reaction kit	25	31107
IC-RNA Internal Control RNA	100	31132
Negative Control	1 mL	31133
Quantitative Standard for <i>Brachyspira</i> spp.	10	31841
Quantitative Standard for Infectious Bronchitis Virus	10	31422
Quantitative Standard for Influenza Virus Type A	10	31423

Kylt®

stands for...

HIGH QUALITY

Development and manufacturing in Germany are ISO 9001 certified

RELIABILITY

Highly satisfactory and reliable high-throughput routine diagnostic

ACCURACY

Sensitive, precise and fully validated detection of pathogens

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