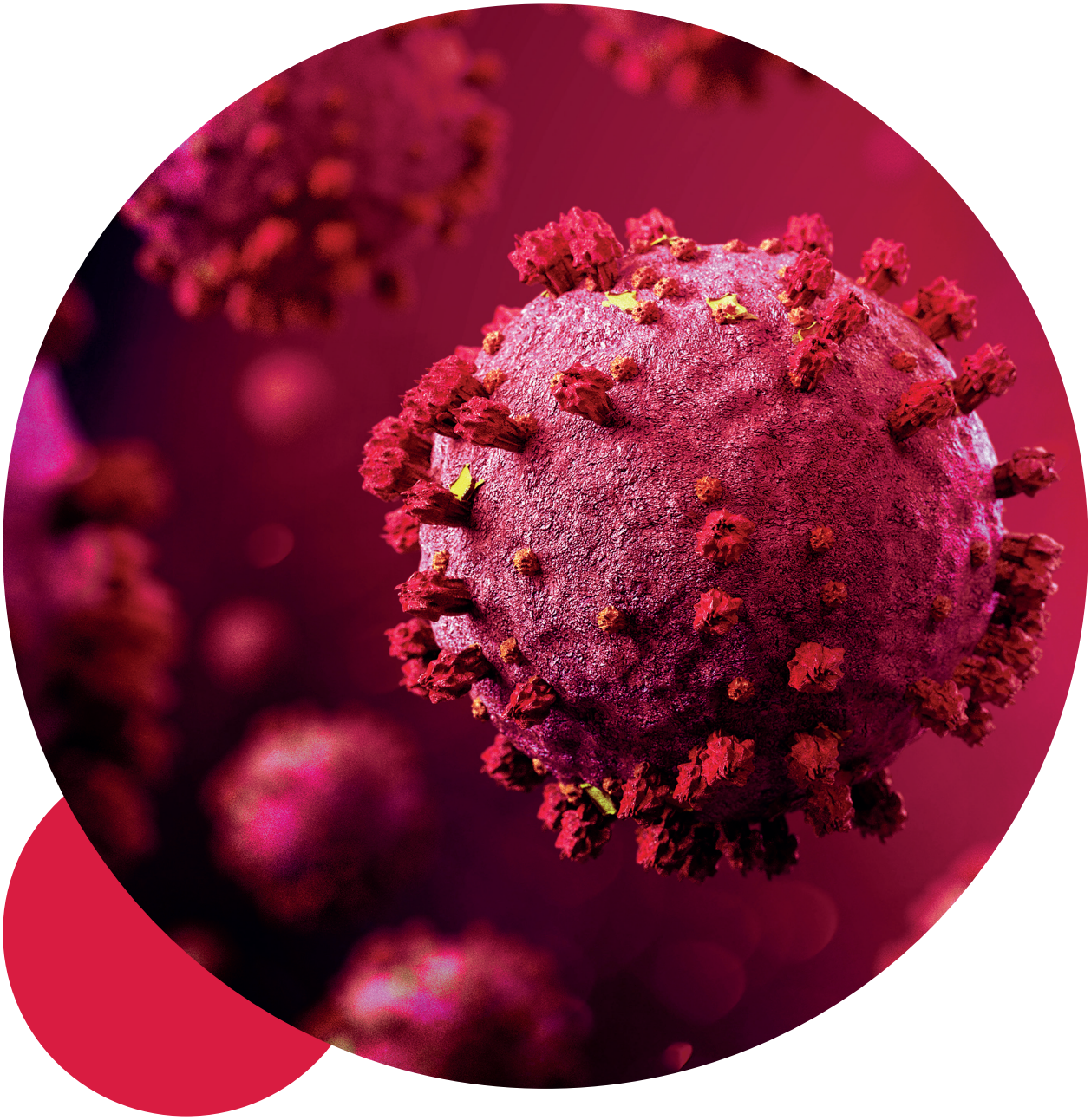
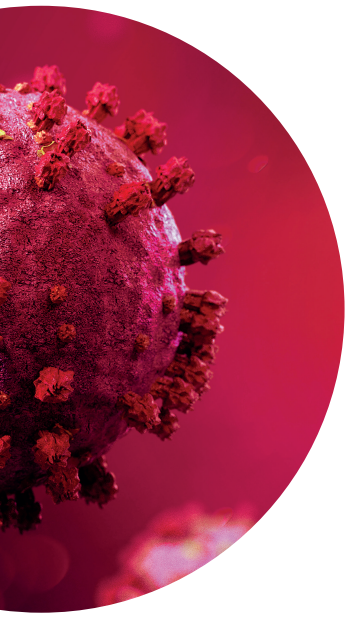
INVITEK
diagnostics

INFECTIOUS DISEASES
Sample preparation



Extract viral DNA/RNA, bacterial DNA, and parasite DNA for detection of infectious diseases

INVITEK diagnostics

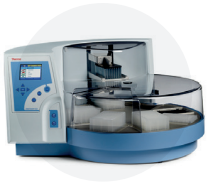


Company overview

Invitek Diagnostics produces high quality nucleic acid extraction products for infectious diseases, from research to diagnostics. Our extraction systems enable an excellent performance in downstream applications such as Next Generation Sequencing (NGS) and multiplex PCR detection systems.

Invitek's product lines Universal and Ready-to-Prep (RTP®) for infectious diseases cover all requirements of daily routine labs.

Kit overview



Kit	Invisorb® Spin Universal Kit (CE-IVD)	RTP® Pathogen Kit (CE-IVD)	InviMag® Universal Kit / KF96 (CE-IVD)
Method	Manual	Manual	Automated
Technology	Spin filter column	Spin filter column	Magnetic bead
Sample capacity	Small to medium throughput	Small to medium throughput	1-96
Processing time	30 min + lysis	20 min + lysis	40-70 min/96 samples

INVITEK diagnostics

UNIVERSAL Kit Series:
Broad specimen compatibility for all diagnostic targets

The InviSorb® and InviMag® Universal Kits are versatile options for diagnostic labs, ideal for isolating viral DNA/RNA, bacterial DNA, and DNA of protozoa. They are suitable for in vitro diagnostics, compatible with various starting materials, and can be used manually or with automated procedures. They support high-throughput processing of diverse samples with established protocols for common extraction platforms.

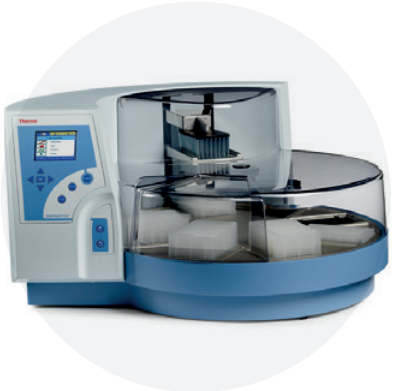
InviSorb®

InviMag®

InviSorb® Spin Universal Kit
Manual Precision for Confident Diagnostics

- One kit for all diagnostic targets: Isolation of viral DNA/RNA, bacterial DNA & DNA of protozoa
- Flexible use: suitable for most clinically relevant starting materials (e.g. serum, plasma, urine, blood, stool suspension, bacterial enrichment culture)
- CE-IVD certified, recommended for in vitro diagnostic use

InviMag® Universal Kit/ KF96
High-Throughput Purification with Magnetic Precision



- High reliability: automated and standardized sample processing on the KingFisher™ Flex Purification System[1]
- High throughput: automated processing of up to 96 samples in one run
- One kit for all diagnostic targets: Isolation of viral DNA/RNA, bacterial DNA & protozoal DNA
- Flexible use: suitable for most clinically relevant starting materials (e.g. serum, plasma, urine, blood, stool suspension, bacterial enrichment culture)
- CE-IVD certified, recommended for in vitro diagnostic use

[1] RUO protocols for additional magentic bead handling instuments are available on invitek.com

INVITEK diagnostics

RTP® Pathogen Kit

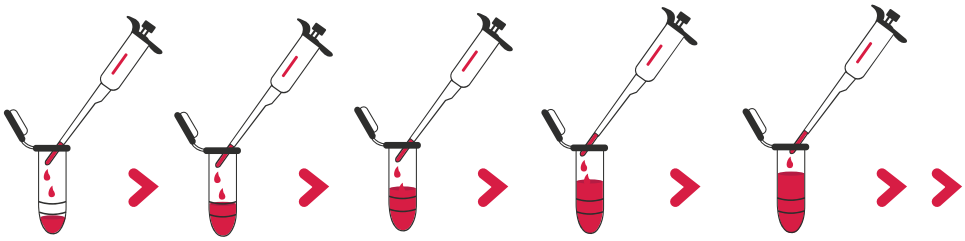
Maximum reproducibility with lyophilized components

Rapid extraction with Ready-to-Prep (RTP®) Technology: the Extraction Tube is prefilled with lyophilized buffer containing all components needed for extraction (e.g. Carrier RNA, Proteinase K). Simply add your sample and save up to 40% hands-on time compared to traditional manual extraction protocols.

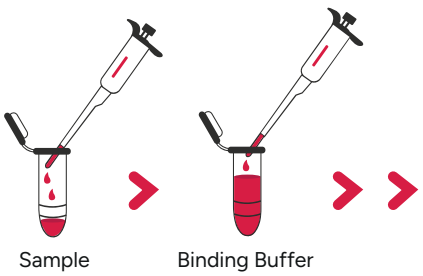
- Pre-filled Extraction Tubes for one-step sample lysis; storage of tubes at room temperature
- Save hands-on time and plastic: less centrifugation and pipetting steps due to one-step lysis
- Multipurpose kit: simultaneous isolation of viral DNA/RNA and protozoal DNA from most clinically relevant starting materials (e.g. serum, plasma, stool suspension, bacterial enrichment culture, tissue)
- CE-IVD certified, recommended for in vitro diagnostic use

Fast and convenient handling

Classical Method



RTP® Technology

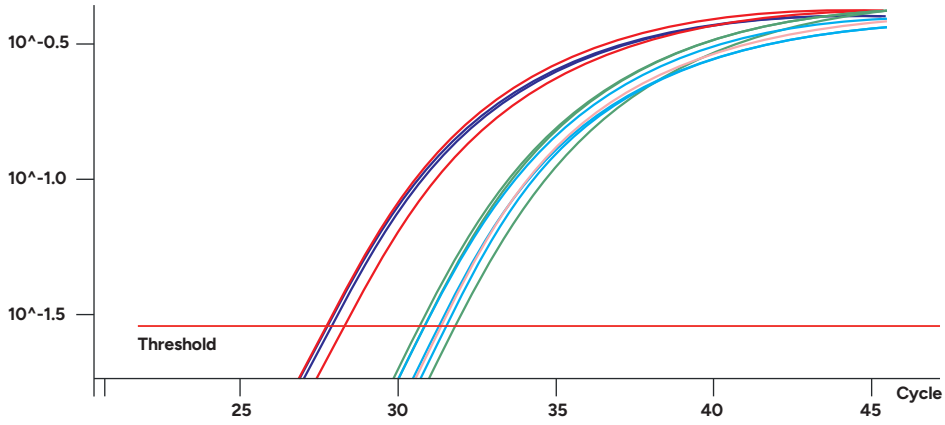


40% reduced hands-on time
60% less pipette tips
high reproducibility

Comparison

RTP® Pathogen Kit with Invisorb® Universal Spin Kit

To compare the performance of the RTP® Pathogen Kit and Invisorb® Spin Universal Kit, RNA was prepared from 0.1 µl and 0.01 µl Influenza A virus stock spiked in 200 µl serum. Three replicates each were purified with both extraction kits. PCR was performed with SureFast® Influenza A Virus Kit (Congen, Berlin, Germany) according to the manufacturer's instructions. Results show (see below) equivalent results for both extraction kits.



PCR assay SureFast® Influenza A (Congen, Berlin, Germany), FAM Channel. RNA was extracted from Influenza A spiked serum in two dilution levels with RTP® Pathogen and Invisorb® Spin Universal Kit, Blue/light blue: extraction with RTP® Pathogen. Red/light red: extraction with Invisorb® Spin Universal Kit. Green: PTC.

Ct values for samples spiked with Influenza A in two dilutions. RNA was extracted with RTP® Pathogen Kit and Invisorb® Spin Universal Kit.

RTP® Pathogen Kit			Invisorb® Spin Universal Kit		
0.1 µl Influenza A			0.1 µl Influenza A		
Sample	Ct	CV [%]	Sample	Ct	CV [%]
1	27.31	0.08	1	27.67	0.27
2	27.23		2	27.35	
3	27.38		3	27.14	
0.01 µl Influenza A			0.01 µl Influenza A		
Sample	Ct	CV [%]	Sample	Ct	CV [%]
1	30.96	0.40	1	31.09	0.40
2	30.18		2	30.31	
3	30.75		3	30.84	
PTC	30.08		PTC	31.22	

Selection of Infectious Diseases Publications

InviSorb® Spin Universal Kit

Pathogen	Sample Type	Downstream Application	Publication
Bacteria			
Escherichia coli (EAEC, EIEC, EPEC, ETEC), Salmonella spp., Shigella spp., Campylobacter jejuni, Yersinia spp.	Fecal samples	PCR	Chercos et al., 2024 [1]
Neisseria gonorrhoeae, Chlamydia trachomatis, Mycoplasma genitalium, Mycoplasma hominis, Ureaplasma urealyticum, Ureaplasma parvum, and Trichomonas vaginalis	Vaginal swab	PCR	Cortés-Ortíz et al., 2023 [2]
Salmonella enterica serovars	Salmonella coultures isolated from poultry and humans	End-point PCR for virulence genes	Lozano-Villegas et al., 2023 [3]
Viruses			
Human papillomavirus (HPV)	Cervical epithelial cells	PCR	Fulawka et al., 2025 [4]
Human papillomavirus (HPV)	Vaginal swab	PCR	Cortés-Ortíz et al., 2023 [2]
Hepatitis C virus (HCV)	Plasma	RT-PCR	Molès et al., 2023 [5]
Hepatitis E virus, Norovirus, Hepatitis A virus	Fecal samples	RT-PCR	Chercos et al., 2024 [1]
Hepatitis C virus (HCV)	Blood	PCR, RT-PCR	Jhelum et al., 2023 [6]
Protozoa (Parasites)			
Entamoeba histolytica, Giardia duodenalis, Cyclospora spp., Cryptosporidium parvum, Ancylostoma spp., Ascaris lumbricoides, Enterobius vermicularis, Hymenolepis nana, Necator americanus, Schistosoma spp., Strongyloides stercoralis, Taenia saginata, Taenia solium, Trichuris trichiura	Fecal samples	PCR	Chercos et al., 2024 [1]

InviMag® Universal Kit/ KF96

Pathogen	Sample Type	Downstream Application	Publication
Bacteria			
Coxiella burnetii, Chlamydia abortus	Goat milk, vaginal swabs, dust samples, animal tissue	PCR	Trachsel et al., 2023 [7]
Rickettsia spp.	Ticks	PCR, sequencing	Chitanga et al., 2021 [8]
Coxiella burnetii	Goat milk, animal tissue	PCR	Bauer et al., 2024 [9]
Oral microbiota	Dental plaque swabs	16S rRNA Sequencing	van Meijeren-van Lunteren et al., 2023 [10]
Viruses			
SARS-CoV-2	Respiratory swabs	RT-PCR, Whole Genome Sequencing (Nanopore)	Hassan et al., 2024 [11]
Various plant viruses	Plant material	Nanopore sequencing	Liefting et al., 2021 [12]
SARS-CoV-2	Nasopharyngeal swabs	RT-PCR, RT-RPA, RT-RAA	

RTP® Pathogen Kit

Pathogen	Sample Type	Downstream Application	Publication
Bacteria			
Mycoplasma pneumoniae, Haemophilus influenzae (b and non-b type), Chlamydiae	Pharyngeal Swabs	PCR	Krumkamp et al., 2023 [14]
Streptococcus pneumoniae, Staphylococcus aureus, Haemophilus influenzae type b, Chlamydia pneumoniae, and Mycoplasma pneumoniae	Nasopharyngeal Swabs	PCR	Khan et al., 2021 [15]
Aeromonas hydrophila, Enterobacter aerogenes, Enterococcus faecalis, Enterobacter cloacae, Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis, Pantoea agglomerans, Serratia fonticola, Bacteroides distasonis, Bacteroides fragilis, Bacteroides vulgatus, Fusobacterium species	Fecal Samples	Sequencing	Vázquez-López et al., 2021 [16]
Viruses			
Parvovirus B19 (B19V)	Serum	PCR	Herr et al., 2020 [17]
Influenza A/B, RSV, hMPV, human Parainfluenzaviruses 1–4 (hPiV1-4), human Coronaviruses (hCoV)-229E, -OC43,--NL63, -HKU1, Enteroviruses, Rhinoviruses, Adenoviruses	Pharyngeal Swabs	RT-PCR	Krumkamp et al., 2023 [14]
Mesonivirus (MeSV), Negevirus (NeV), Arboviruses	Mosquitos	RT-PCR, Sequencing	Agboli et al., 2023 [18]
SARS-CoV-2	Cornea, nasopharyngeal swabs, conjunctival swabs	RT-PCR	Wille et al., 2022 [19]
Human Adenovirus, Human Bocavirus, Human Coronavirus (NL63, 229E, OC43 and HKU1229), Enterovirus, Influenza A Virus, Influenza A H1N1 Virus, Influenza B Virus, Human Metapneumovirus A/B, Human Parainfluenza Virus 1, 2, 3 and 4, Human Parechovirus, Human Rhinovirus, RSV A/B	Nasopharyngeal Swabs	RT-PCR	Khan et al., 2021 [15]
Protozoa (Parasites)			
Trypanosoma cruzi	Serum	PCR	Kann et al., 2023 [20]
Trypanosoma cruzi	Serum	PCR, 18S rRNA Sequencing	Kann et al., 2020 [21]

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Ordering information

Product	Package size	Catalogue No.
Invisorb® Spin Universal Kit (CE-IVD)	50 preps 250 preps	1050100200 1050100300
InviMag® Universal Kit/ KF96 (CE-IVD) (for use on KingFisher™ 96 and KingFisher™ Flex, Thermo Fisher Scientific)	5 x 96 preps	7450300200
InviMag® Universal Kit/ KF96 w/o plastic (CE-IVD) (without KingFisher™ plastic)	5 x 96 preps	7450300250
RTP® Pathogen Kit (CE-IVD)	50 preps 250 preps	1040500200 1040500300
InviMag® Universal Kit/ IG (CE-IVD) (for use on the InviGenius® PLUS, Invitek Molecular GmbH)	8 x 12 preps	7450300200

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CE IVD

In compliance with REGULATION (EU) 2017/746 on in vitro diagnostic medical devices. Not for in vitro diagnostic use in countries where the REGULATION (EU) 2017/746 on in vitro diagnostic medical devices is not recognized.

DOE DD 127.01 | 25/07/30

INVITEK diagnostics

Contact us

info@invitek.com

INVITEK DIAGNOSTICS PORTUGAL

Zona Industrial de Tondela, ZIM II, Lote 6
3460-070 Tondela, Portugal

INVITEK DIAGNOSTICS GERMANY

Haynauer Str. 60,
12249 Berlin, Germany