

PRIMER DESIGN

DNA/RNA testing

Veterinary
Molecular Diagnostics
Made Easy

The genesig[®] q16



NOVACYT
GROUP



The genesig[®] q16

What is the genesig q16?

The genesig q16 is a revolutionary instrument launched by Primerdesign Ltd. The instrument is designed to accompany the genesig product range which includes kits for over 550 different DNA/RNA testing applications. The q16 can test up to 14 samples at a time and is designed to make DNA/RNA testing affordable and easy for anyone in any business.

What can I use it for?

The genesig product range includes a huge range of tests for veterinary diagnostics.

Companion animals: Detect FIV in cats, CDV in dogs, Influenza in birds and much much more...

Farm animals: Screening for Foot and Mouth? Monitoring blue tongue outbreak? All possible from the back of a Land Rover with the genesig q16.

Equine: Precise and affordable detection of sexually transmitted diseases, *Taylorella equigenitalis*, *Klebsella pneumoniae* and *Pseudomonas aeruginosa*.

What is DNA/RNA testing?

DNA/RNA testing is the most sensitive and precise way to detect and quantify the presence of a DNA/RNA target. The underlying technology within the genesig q16 is real-time quantitative PCR. The technology has been around for 20 years, but to date has been complex and expensive to perform. The genesig q16 changes all that.

I don't have a laboratory. Can I use it?

Yes! If you don't have a laboratory it really doesn't matter. The instrument is designed to be used by anyone, anywhere. There is no complex programming or data analysis required. All of that is taken care of by our clever software. All you get is the answers to the questions you ask.

Alongside the instrument we can also supply you a complete 'lab-in-a-box' containing the few simple tools that you need to do your own DNA/RNA testing.

Is everything completely automated?

You will need to follow some very simple steps to extract the DNA/RNA from your sample. Then put it in to a tube and on to the q16. It's easy. And we'll provide incredibly simple instructions to guide you through your first experience.

qPCR tests
veterinary pathogens



The genesig[®] Easy Kit range

What is a genesig Easy Kit?

genesig is a catalogue of DNA/RNA testing kits for a range of applications. The kits come in 3 formats: advanced, standard and easy. The genesig Easy Kit range is the simplest to use version and is designed specifically for use on the genesig q16 instrument.

What is in the kit?

The kit contains all of the components required to run a DNA/RNA test. The kit is freeze-dried so that it can be shipped at room temperature. To use it you simply rehydrate the kit components, mix them and combine with your sample, before placing into the genesig q16 and starting the automated analysis. (DNA/RNA extraction solutions supplied separately).



qPCR test kits veterinary

The veterinary range is currently the fastest growing part of the genesig portfolio. qPCR based veterinary kits attract a lot of attention and this product ranges addresses some truly unique challenges in the field.

Can't find what you're looking for?
OnDemand Kits - page 13

qPCR test kits veterinary

- Acute bee paralysis virus
- Aeromonas hydrophila
- Aleutian Disease Virus
- All pathogenic Salmonella species
- **NEW!** African swine fever virus
- Anaplasma phagocytophilum
- Aspergillus fumigatus
- Avian Infectious Bronchitis Virus (IBV)
- Avian Influenza A Virus Subtype H5
- Avian Influenza A Virus Subtype H7
- Avian orthoreovirus
- B.cinerea
- Babesia bovis
- Babesia caballi
- Bartonella henselae
- Beak and Feather Disease Virus
- Betanodavirus
- Bird flu
- Bluetongue Virus
- Bordetella Bronchiseptica and Bordetella Parapertussis
- Bovine herpesvirus 1
- Bovine Respiratory Syncytial Virus
- Brucella abortus
- Budgerigar Fledgling Disease Virus (avian polyomavirus)
- Burkholderia mallei
- Burkholderia pseudomallei
- Campylobacter Coli
- Campylobacter coli and Campylobacter jejuni
- Campylobacter fetus
- Campylobacter Jejuni
- Canine Distemper Virus
- Canine herpes virus
- Carnivore protoparvovirus 1
- Chicken anemia virus
- Chlamydiaceae (all species)
- Chlamydomphila abortus
- Chlamydomphila felis
- Chlamydomphila psittaci
- Classical swine fever virus
- Clostridium tetani
- Columbid Circovirus
- Columbid herpesvirus 1
- Coxiella burnetii
- Cryptosporidium
- Dirofilaria immitis
- Ehrlichia canis
- Enteropathogenic Escherichia coli
- Enterotoxigenic Escherichia coli
- Epizootic haematopoietic necrosis virus
- Equid Herpesvirus 1
- Equid Herpesvirus 2
- Equid Herpesvirus 3
- Equid Herpesvirus 4
- Equid Herpesvirus 5
- Equine infectious anemia virus
- Equine Rhinovirus type 1
- Equine Rhinovirus type 2
- Equine/Canine influenza (H3N8 & H7N7)
- Escherichia coli (all strains)
- Escherichia coli O157:H7
- Feline calicivirus
- Feline coronavirus
- Feline Herpesvirus
- Feline Immunodeficiency Virus
- Feline Leukemia Virus
- Foot and Mouth Disease Virus

- Gallid herpesvirus 1
 - Gallid herpesvirus 2
 - Giardia intestinalis, Assemblage A-F(veterinary infections)
 - H10N8
 - H5N8
 - Infectious Bursal Disease Virus (IBDV)
 - Infectious Hematopoietic Necrosis Virus
 - Infectious Pancreatic Necrosis Virus
 - Infectious salmon anemia virus
 - Influenza A H7N9
 - Lawsonia intracellularis
 - Leptospirosis
 - Listeria monocytogenes
 - Lymphocystivirus
 - Mammalian Babesiosis
 - Microsporium canis
 - Mycobacterium avium
 - Mycobacterium avium subspecies paratuberculosis
 - Mycoplasma
 - Mycoplasma arginini
 - Mycoplasma bovis
 - Mycoplasma felis
 - Mycoplasma gallisepticum
 - Mycoplasma haemofelis
 - Mycoplasma hyopneumoniae
 - Mycoplasma hyorhinis
 - Mycoplasma meleagridis
 - Mycoplasma species haemofelis and haemocanis
 - Mycoplasma synoviae
 - Mycoptes musculinus
 - Neospora caninum
 - Newcastle disease virus
 - Pasteurella multocida
 - Photobacterium damsela
 - Porcine circovirus 2
 - Porcine epidemic diarrhoea virus
 - Porcine parvovirus
 - Porcine Reproductive and Respiratory Syndrome Virus
 - Rabbit haemorrhagic disease virus type 2
 - Rabies Virus
 - Rhodococcus equi
 - Salmonella enterica
 - Streptococcus agalactiae
 - Streptococcus equi subspecies equi
 - Streptococcus pneumoniae
 - Strongylus vulgaris
 - Tai Forest Ebola Virus
 - Theileria equi (formally Babesia equi)
 - Tilapia lake virus
 - Toxoplasma gondii
 - Tritrichomonas foetus
 - Trypanosoma equiperdum
 - Vesicular stomatitis virus
 - Viral Hemorrhagic Septicemia Virus
 - Vibrio parahaemolyticus
 - Yersinia ruckeri
- Multiplex Kit**
- genesigPLEX Kit SE/SZ (Streptococcus equi subspecies equi & Streptococcus equi subspecies zooepidemicus)

Extra genesig Easy Kits made-to-order

These Easy Kits typically have a dispatch time of 4-6 weeks

- Achleplasma laidlawii
- African Horse Sickness Virus
- African Trypanosomiasis
- Agapornis species
- Anaplasma centrale
- Anaplasma marginale
- Aspiculuris tetraptera
- Atlantic salmon paramyxovirus
- Avian adenovirus EDS76 Egg Drop Syndrome
- Avian Influenza A Virus Subtype H6
- Avian Influenza A Virus Subtype H9
- Babesia bigemina
- Babesia canis
- Babesia divergens
- Babesia gibsoni
- Bacillus anthracis
- Batrachochytrium dendrobatidis
- Bluetongue Virus 1
- Bovine adenovirus 3
- Bovine adenovirus 5,6 and 8
- Bovine ephemeral fever virus
- Bovine Leukemia Virus
- Bovine parainfluenza virus 3
- Bovine Parvovirus
- Bovine Respiratory Corona Virus
- Brachyspira hyodysenteriae
- Brucella suis
- Camelpox virus
- Campylobacter fetus subspecies venereal
- Candidatus Mycoplasma haemominutum
- Canine adenovirus 1
- Canine adenovirus 2
- Canine coronavirus

Extra genesig Easy Kits made-to-order

continued...

- Canine influenza (H3N8)
- Canine Norovirus
- Canine parainfluenza virus
- Capripoxvirus
- Chlamydia pneumoniae
- Crimean-Congo Haemorrhagic Fever Virus
- Cryptococcus neoformans
- Cyclospora cayentanensis
- Cyprinid herpesvirus 3
- Dobrava-Belgrade virus
- Duck Hepatitis B Virus
- Echinococcus granulosus
- Encephalitozoon cuniculi
- Encephalitozoon species
- Enterocytozoon bienersi
- Enterohemorrhagic Escherichia coli
- Enteroinvasive Escherichia coli
- Epizootic Hemorrhagic Disease Virus
- Equine Arteritis Virus
- Fowlpox Virus
- Francisella tularensis
- Geosmithia argillacea
- Human Rotavirus A
- Human Rotavirus B
- Human Rotavirus C
- Infectious spleen and kidney necrosis virus
- Israeli Acute Paralysis Virus
- Klebsiella pneumoniae capsule type 1
- Klebsiella pneumoniae capsule type 2
- Klebsiella pneumoniae capsule type 5
- Marburgvirus
- Microsporium gypseum
- Minute virus of canines (Canine minute virus)
- Mycoplasma mycoides cluster
- Myobia musculi
- Paenibacillus larvae
- Peste-des-petits-ruminants Virus
- Photobacterium damsela subsp. piscicida
- Pigeon adenovirus 1
- Porcine circovirus 1
- Porcine Reproductive and Respiratory Syndrome Virus, EU strains
- Porphyromonas gulae
- Reston ebola virus
- Rift Valley Fever Virus
- SARS coronavirus
- Sheep Poxvirus
- shiga toxin (stx1) producing Escherichia coli
- shiga toxin (stx2f) producing Escherichia coli
- Spirochaeta muris
- Spring Viremia of Carp Virus
- Streptococcus equi subspecies zooepidemicus
- Streptococcus mitis
- Streptococcus oralis
- Streptococcus pyogenes
- Streptococcus salivarius
- Streptococcus sanguinis
- Sudan Ebola Virus
- Swinepox
- Syphacia muris
- Syphacia obvelata
- Taylorella equigenitalis
- tellurite resistant Escherichia coli
- Theileria annulata
- Theileria mutans
- Theileria parva
- toxigenic subspecies of Vaccinia virus
- Transmissible Gastro Enteritis Virus & Porcine

Can't find what you're looking for?
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- Respiratory Coronavirus
- Transmissible gastroenteritis virus
- Trichophyton mentagrophytes
- Trypanosoma evansi
- Veterinary Rotavirus B
- Veterinary Rotavirus C
- White spot syndrome virus
- Zaire ebola virus

CEMO, K. pneumoniae and P. aeruginosa test kits

Granted permission to be used by registered laboratories in the HBLB testing scheme

CEMO detection bundle

We offer a bundle of three validated kits to detect Taylorella equigenitalis (CEMO), Klebsiella pneumoniae and Pseudomonas aeruginosa independently.

These kits have been granted permission to be used by registered laboratories in the HBLB testing scheme. Please visit our website for further information and to read our validation report.

Kit features

- Exceptional value for money
- 50 tests per kit
- Highly sensitive
- High priming efficiency
- Sensitive to < 100 copies of target
- Targets multiplexed with internal extraction control
- Positive and endogenous controls included
- Positive copy number standard curve for quantification
- Accurate controls to confirm findings

HORSE STI BUNDLES

CATALOGUE NO.	PRODUCT DESCRIPTION	KIT SIZE
Path-TKP-EASY	genesig real time PCR detection three kit bundle for Taylorella equigenitalis, Klebsiella pneumoniae, and Pseudomonas aeruginosa	50rxn

OnDemand Kits

Guaranteed High Quality Custom Kits Expertly Designed and Developed on Request

OnDemand Kits are Real-Time PCR assays developed on request to meet your specific requirements, giving you an assay of the highest quality, which specifically works for you.

We offer precise qPCR assay development including primer/probe design, PCR mix optimisation and assay development to ensure a very effective qPCR reaction. This service allows for the combination of bioinformatic design and development, in conjunction with laboratory testing and evaluation, to provide personally designed primers to match your exact needs and ensure high levels of sensitivity and specificity.

Product Features

- Top quality assays with guaranteed results
- Designed by 'in-house' bioinformatical experts, not databases
- Scientifically validated in our laboratory
- Preliminary feasibility confirms if OnDemand assay is likely possible
- An assay for almost any application

OnDemand Kits are sold for research use only and are not licensed for diagnostic procedures..

Technical Information

Our standard assay formats include Double-Dye cleavage probe (e.g. TaqMan® probes) or as primer only kits for use with SYBR® Green chemistry.

Kit Contents

- **OnDemand Advanced Kit:** Target primer & probe set, positive control, internal extraction control primer & probe set, internal extraction control template, endogenous control primer & probe set, RNase/DNase free water, template preparation buffer, Feasibility Report, Kit Data Sheet (incl. anchor nucleotide).
- **OnDemand Easy Kit:** Target primer & probe set, oasig Lyophilised qPCR Master Mix (DNA/RNA or RNA), oasig resuspension buffer, positive control, internal extraction control, RNase/DNase free water, template preparation buffer, 54x genesig q16 reaction tubes, Feasibility Report, Kit Data Sheet (incl. anchor nucleotide).

Visit our website for further information and FAQs, or send us an email to enquiry@primerdesign.co.uk.

Examples of OnDemand Kits

A preliminary investigation of the targets below suggest these organisms can have an effective qPCR assay developed which would match our high performance criteria of specificity, sensitivity and efficiency.

If you are interested in any OnDemand Kits please check out the purchasing section on the previous page, or alternatively contact us via email: enquiry@primerdesign.co.uk or telephone: +44 (0) 23 8074 8830.

Veterinary targets

- Ancylostoma duodenale
- Bluetongue virus (BTV-8)
- Cladosporium spp
- Corynebacterium pseudotuberculosis
- Enterocytozoon hepatopenaei
- Grass carp reovirus (GCRV)
- Mycoplasma iowae
- Mycoplasma suis
- Ornithobacterium rhinotracheale
- Photobacterium phosphoreum
- Slow bee paralysis virus (SBPV)
- Vesivirus 2117
- Wesselsbron virus (WESSV)

genesig[®] Easy DNA/RNA Extraction Kits

Easy extraction from virtually any sample type - it's fast, and incredibly easy to perform.

The genesig Easy DNA/RNA Extraction Kit allows DNA/RNA and RNA extraction from virtually any sample type using magnetic bead technology - it's fast, and incredibly easy to perform.

- Extracts DNA/RNA and RNA with high yields <60 minutes
- Works with huge range of sample types
- Safe protocol with no phenolic chemicals
- No centrifuge or electrical equipment required - for use in the lab or in the field

The genesig easy DNA/RNA extraction protocol begins with a simple lysis step where cells and tissue are lysed to release their nucleic acid. Then tiny magnetic particles are added to bind to RNA/DNA. When placed on to the genesig magnetic separator the particles are pulled to the side of the tube making it easy to remove the unwanted supernatant with a pipette. Then a series of simple wash steps are performed before the DNA/RNA is washed off the beads back in to solution, ready for analysis by real-time PCR.

It's fast, and incredibly easy to perform.

Sample types

Suitable sample types include whole blood, plasma, and serum; saliva and sputum; faeces and urine; tissues; and bacterial culture broth, as well as meat, fish, milk and cooked or processed meats, plus plant, soil and water.

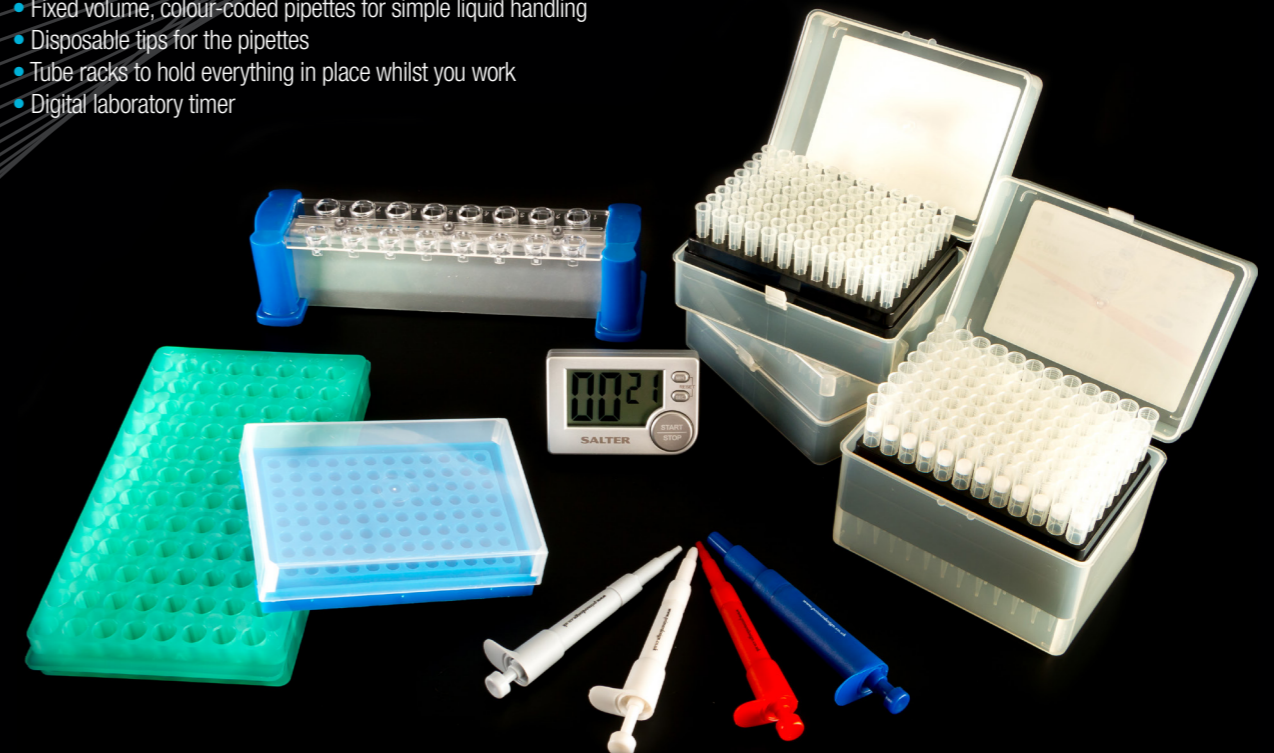


The genesig[®] Lab-in-a-Box

Create a lab for anyone and anywhere

Even if you've never performed a DNA/RNA test in your life, the genesig q16 makes it affordable and easy to do. If you've never done this kind of testing then you probably don't have a laboratory. That's fine, as our Lab-in-a-Box provides all of the simple tools that you'll need to get started.

- A genesig magnetic rack for DNA/RNA extraction
- Fixed volume, colour-coded pipettes for simple liquid handling
- Disposable tips for the pipettes
- Tube racks to hold everything in place whilst you work
- Digital laboratory timer



The genesis[®] q16 technical specifications

The q16 is a closed system designed to provide an incredibly simple user experience with fully automated data calling. It will not operate successfully with kits other than the genesis Easy kit range.

- 16 Wells
- 20µl reaction volume
- Peltier thermal control
 - 3°C/s heating
 - 2°C/s cooling
 - Thermal uniformity +/- 0.1°C range
 - Thermal accuracy +/- 0.25°C
- LED excitation
- CMOS detection
- Multiplex detection of target and internal control via FAM and VIC channels
- 160mm height
- 120mm diameter
- 2kg weight
- 90W power consumption
- No moving parts
- Silent operation
- Operate from PC, Mac, via network, or stand alone with a USB drive
- Extraordinary well-to-well reproducibility

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The PCR process is covered by US Patents 4,683,195 and 4,683,202 and foreign equivalents owned by Hoffmann-La Roche AG.

SYBR[®] Green is a registered trade mark of Molecular Probes Inc. TaqMan[®] is a registered trademark of Roche Molecular Systems, Inc.

The purchase of the Primerdesign[™] reagents cannot be construed as an authorisation or implicit licence to practice PCR under any patents held by Hoffmann-LaRoche Inc.

Notes



**For more information please
visit www.primerdesign.co.uk**

genesig kits are sold for general laboratory and research use only. Please feel free to contact us for free advice or technical support.

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