



Plant Pathogens

**Molecular solutions for Rapid
Detection of Plant Pathogens**

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Learn More
www.trustseeds.com

Letgen offers a large number of real-time PCR based solutions to detect plant diseases.

For research use only.

PATHOGENS:

- Virus
- Bacteria
- Fungi
- Viroid
- Phytoplasma
- Nematodes

PARTNERS:



• Real Time PCR Kits

• Plant Nucleic Acid Purification Kits

• Life Science Plastics

(filter tips, pcr strip, real time pcr plates)

• PCR reagents

• DNA Electrophoresis

• Elisa Kits

TaqMan Technology

- Plant/Fungi DNA Purification Kit
- Plant/Fungi RNA Purification Kit
- Plant/Fungi DNA & RNA Purification Kit
- Nematod DNA isolation kit.
- DNA Taq polymerase
- 2x master mix
- Xpert One-Step RT-PCR Kit
- Xpert cDNA Synthesis Kit
- RNA Stand-by Solution
- Agarose
- Ladders
- Xpert Green DNA Stain

All kits were validated to be used with the following PCR Instruments:

• LightCycler 480 II • BioRad CFX96 Touch

Real Time PCR Kit: Primer Probe Mix + Master Mix + Internal Control + Positive Control + Procut Insert



Real Time PCR Kit List (TaqMan)

Tomato Brown Rugose Virus (ToBRFV)	Letgen Biotech	300/100 Rxn	Virus
Tomato Spotted Wild Virus (TSWV)	Letgen Biotech	300/100 Rxn	
Pepino Mosaic Virus (PePMV)	Letgen Biotech	300/100 Rxn	
ToBRFV-PePMV-TSWV Multiplex Detection Kit	Letgen Biotech	300/100 Rxn	
Potato Virus Y (PVY)	Letgen Biotech	300/100 Rxn	
Beet Curly Top Virus (BCTV)	Letgen Biotech	300/100 Rxn	
Citrus Tristeza Virus (CTV)	Letgen Biotech	300/100 Rxn	
Tomato RingSpot Virus (ToRSV)	Letgen Biotech	300/100 Rxn	
Cucumber Vein Yellowing Virus (CVYV)	Letgen Biotech	300/100 Rxn	
Cucurbit Yellow Stunting Disorder Virus (CYSDV)	Letgen Biotech	300/100 Rxn	
Tomato Yellow Curl Virus (TYLCV)	Letgen Biotech	300/100 Rxn	
Tobacco Ringspot Virus (TRSV)	Letgen Biotech	300/100 Rxn	
Tomato Infectious Chlorosis Virus (TICV)	Letgen Biotech	300/100 Rxn	
Tomato Chlorosis Virus (TOCV)	Letgen Biotech	300/100 Rxn	
Tomato Mottle Mosaic Virus (TOMMV)	Letgen Biotech	300/100 Rxn	
Tomato Leaf Curl New Delhi Virus (ToLCNDV)	Letgen Biotech	300/100 Rxn	
Impatiens necrotic spot tospovirus (INSV)	Letgen Biotech	300/100 Rxn	
Raspberry bushy dwarf virus (RBDV)	Letgen Biotech	100 Rxn	
Raspberry ringspot virus (RPRSV)	Letgen Biotech	100 Rxn	
Raspberry leaf mottle virus (RLMV)	Letgen Biotech	100 Rxn	
Raspberry leaf blotch virus (RLBV)	Letgen Biotech	100 Rxn	
Strawberry crinkle virus (SCRV)	Letgen Biotech	100 Rxn	
Strawberry mottle virus (SMOV)	Letgen Biotech	100 Rxn	
Strawberry vein banding virus (SVBV)	Letgen Biotech	100 Rxn	
Strawberry pseudo mild yellow edge virus (SPMYEV)	Letgen Biotech	100 Rxn	
Strawberry chlorotic fleck (SCFaV)	Letgen Biotech	100 Rxn	
Strawberry latent C virus (STLCV)	Letgen Biotech	100 Rxn	
Strawberry latent ringspot virus (SLRSV)	Letgen Biotech	100 Rxn	
Beet necrotic yellow vein virus (AP-B-P pathotypes) (BNYVV)	Letgen Biotech	500 Rxn	
Chrysanthemum stem necrosis tospovirus (CSNV)	Letgen Biotech	300 Rxn	
Apple Mosaic Virus (APMV)	Letgen Biotech	100 Rxn	

Apple Chlorotic Leafspot Virus (ACLSV)	Letgen Biotech	100 Rxn	Virus
Potato leafroll luteovirus (PLRV)	Letgen Biotech	300 Rxn	
Potato X potexvirus (PVX)	Letgen Biotech	300 Rxn	
Potato M carlavirus (PVM)	Letgen Biotech	300 Rxn	
Potato Virus S (PVS)	Letgen Biotech	300 Rxn	
Potato yellowing ilarvirus (PYV)	Letgen Biotech	300 Rxn	
Potato Y potyvirus stipple streak strain (PVYC)	Letgen Biotech	300 Rxn	
Potato V potyvirus (PVV)	Letgen Biotech	300 Rxn	
Potato virus T (PVT)	Letgen Biotech	300 Rxn	
Potato mop-top virus (PMTV)	Letgen Biotech	300 Rxn	
Andean potato mottle comovirus (APMOV)	Letgen Biotech	300 Rxn	
Andean potato latent tymovirus (APLV)	Letgen Biotech	300 Rxn	
Tobacco rattle tobravirus (TRV)	Letgen Biotech	300 Rxn	
Potato yellow dwarf nucleorhabdovirus (PYDV)	Letgen Biotech	300 Rxn	
Potato black ringspot nepovirus (PBRSV)	Letgen Biotech	300 Rxn	
Arracacha B 'nepovirus' (AVB)	Letgen Biotech	300 Rxn	
Potato Virus A (PVA)	Letgen Biotech	300 Rxn	
Tomato Mosaic virus (TMV)	Letgen Biotech	300 Rxn	
Barley stripe mosaic virus (BSMV)	Letgen Biotech	300 Rxn	
Apple green crinkle associated virus (APGC)	Letgen Biotech	300/100 Rxn	
Apple necrotic mosaic virus (APNMV)	Letgen Biotech	300/100 Rxn	
Apple rubbery wood virus 1 (ARWV1)	Letgen Biotech	300/100 Rxn	
Apple rubbery wood virus 2 (ARWV2)	Letgen Biotech	300/100 Rxn	
Apple stem pitting virus (ASPV)	Letgen Biotech	100 Rxn	
Cherry green ring mottle foverivirus (CGRMV)	Letgen Biotech	100 Rxn	
Myrobalan latent ringspot nepovirus (MLRSV)	Letgen Biotech	100 Rxn	
Prune dwarf ilarvirus (PDV)	Letgen Biotech	100 Rxn	
Prunus necrotic ringspot ilarvirus (PNRSV)	Letgen Biotech	100 Rxn	
Cucumovirus CMV (Cucumber Mosaic Virus) (CMV)	Letgen Biotech	300 Rxn	
Tobamovirus tabaci (Tobacco Mosaic Virus) (TMV)	Letgen Biotech	300 Rxn	
Raspberry vein chlorosis virus (RVCV)	Letgen Biotech	100 Rxn	
Plum Pox Virus (PPV)	Norgen Biotek	100 Rxn	
Grapevine Red Blotch-Associated Virus (GRBaV)	Norgen Biotek	100 Rxn	
Grapevine Leafroll -associated virus -1, -2 and -3	Qualiplante	100 Rxn	
Grapevine Fleck Virus (GFLV)	Qualiplante	100 Rxn	
Grapevine Fleck Virus (GFkV)	Qualiplante	100 Rxn	
Grapevine Virus A / B	Qualiplante	100 Rxn	
Cherry Leaf- Roll Virus (CLRV)	Qualiplante	100 Rxn	

Potato Spindle Tuber Viroid (PSTVd)	Letgen Biotech	300/100 Rxn	Viroid
Tomato Apical Stunt Viroid (TASVd)	Letgen Biotech	300/100 Rxn	
Columnea Latent Viroid (CLVd)	Letgen Biotech	300/100 Rxn	
Tomato Chlorotic Dwarf Viroid (TCDVd)	Letgen Biotech	300/100 Rxn	
Pepper Chat Fruit Viroid (PCFVd)	Letgen Biotech	300/100 Rxn	
Chrysanthemum Stunt Pospiviroid (CSVd)	Letgen Biotech	300 Rxn	
Apple Hammerhead Viroid (AHVd)	Letgen Biotech	300/100 Rxn	
Pear Blister Canker Viroid (PBCVd)	Letgen Biotech	100 Rxn	
Avocado Sunblotch Viroid (ASBVd)	Norgen Biotek	100 Rxn	
Coconut Cadang-Cadang Viroid (CCCVd)	Norgen Biotek	100 Rxn	
Chrysanthemum Chlorotic Mottle Viroid (CChMVd)	Norgen Biotek	100 Rxn	
Citrus Exocortis Viroid (CEVd)	Norgen Biotek	100 Rxn	
Coconut Tinangaja Viroid (CTiVd)	Norgen Biotek	100 Rxn	
Hop Latent Viroid (HLVd)	Norgen Biotek	100 Rxn	
Hop Latent Viroid (HLVd), Lettuce Chlorotic Virus (LCV), and Cannabis Cryptic Virus (CanCV)	Norgen Biotek	100 Rxn	
Hop Stunt Viroid (HSVd)	Norgen Biotek	100 Rxn	
Pospiviroid	Norgen Biotek	100 Rxn	
Peach Latent Mosaic Viroid (PLMVd)	Norgen Biotek	100 Rxn	
Tomato Planta Macho Viroid (TPMVd)	Norgen Biotek	100 Rxn	

Ralstonia solanacearum	Letgen Biotech	300/100 Rxn	Bacteria
Clavibacter michiganensis subsp. Sepedonicus	Letgen Biotech	300/100 Rxn	
Xanthomonas campestris pv.vesicatoria	Letgen Biotech	300/100 Rxn	
Xanthomonas campestris pv.corylina	Letgen Biotech	300/100 Rxn	
Xanthomonas axonopodis pv. Allii	Letgen Biotech	300/100 Rxn	
Agrobacterium tumefaciens	Letgen Biotech	300/100 Rxn	
Acidovorax citrulli	Letgen Biotech	300/100 Rxn	
Erwinia stewartii	Letgen Biotech	300/100 Rxn	
Clavibacter michiganensis subsp. Michiganensis	Letgen Biotech	300/100 Rxn	
Xanthomonas oryzae pv. Oryzae	Letgen Biotech	300/100 Rxn	
Xanthomonas oryzae pv. Oryzicola	Letgen Biotech	300/100 Rxn	
Mycoplasma Synoviae	Letgen Biotech	300/100 Rxn	
Dickeya spp.	Letgen Biotech	300/100 Rxn	
Pectobacterium spp.	Letgen Biotech	300/100 Rxn	
Erwinia carotovora	Letgen Biotech	300/100 Rxn	
Candidatus Phytoplasma mali	Letgen Biotech	300 Rxn	
Candidatus Phytoplasma pyri	Letgen Biotech	300 Rxn	
Rathayibacter tritici	Letgen Biotech	300 Rxn	
Erwinia amylovora	Letgen Biotech	300 Rxn	
Pseudomonas syringae pv. Maculicola	Letgen Biotech	300 Rxn	
Pseudomonas syringae pv. Acitinidiae	Qualiplante	100 Rxn	
Xylella Fastidiosa	Norgen Biotek	100 Rxn	
Candidatus Liberibacter Solanacearum	Norgen Biotek	100 Rxn	
Candidatus Liberibacter	Norgen Biotek	100 Rxn	

Monilinia fructicola	Letgen Biotech	300/100 Rxn	Fungi
Elsinoe fawcetti	Letgen Biotech	300/100 Rxn	
Colletotrichum acutatum	Letgen Biotech	300/100 Rxn	
Fucarium circinatum	Letgen Biotech	300/100 Rxn	
Stenocarpella macrospora	Letgen Biotech	300/100 Rxn	
Stenocarpella maydis	Letgen Biotech	300/100 Rxn	
Diaporthe helianthi	Letgen Biotech	300 Rxn	
Synchytrium endobioticum (Schilbersky) Percival	Letgen Biotech	300 Rxn	
Tilletia indica Mitra	Letgen Biotech	300 Rxn	
Cochliobolus carbonum	Letgen Biotech	300 Rxn	
Didymella ligulicola	Letgen Biotech	300 Rxn	
Tilletia controversa	Letgen Biotech	300 Rxn	
Glomerella gossypii	Letgen Biotech	300 Rxn	
Phytophthora fragariae	Letgen Biotech	300 Rxn	
Aspergillus flavus/Aspergillus parasiticus	Letgen Biotech	300 Rxn	
Leptosphaeria maculans	Letgen Biotech	300 Rxn	
Verticillium dahliae	Letgen Biotech	300 Rxn	
Helminthosporium maydis	Letgen Biotech	300 Rxn	
Lecanostica acicola/Mycosphaerella dearnessii	Letgen Biotech	300 Rxn	
Phymatotrichopsis omnivora	Letgen Biotech	300 Rxn	
Fusarium oxysporum	Letgen Biotech	300 Rxn	
Botrytis cinerea	Norgen Biotek	100 Rxn	
Cladosporium cladosporioides	Norgen Biotek	100 Rxn	
Phomopsis viticola	Norgen Biotek	100 Rxn	
Aspergillus niger	Norgen Biotek	100 Rxn	

Xanthium sp.	Letgen Biotech	300 Rxn	Plant Species
Aegilops cylindrica	Letgen Biotech	300 Rxn	
Aegilops triuncialis	Letgen Biotech	300 Rxn	
Avena sterilis subsp. Ludoviciana	Letgen Biotech	300 Rxn	
Avena sterilis	Letgen Biotech	300 Rxn	
Avena barbata	Letgen Biotech	300 Rxn	
Bromus rigidus	Letgen Biotech	300 Rxn	
Jacobaea vulgaris	Letgen Biotech	300 Rxn	
Turgenia latifolia	Letgen Biotech	300 Rxn	
Acroptilon repens	Letgen Biotech	300 Rxn	
Centaurea diffusa	Letgen Biotech	300 Rxn	
Ambrosia sp.	Letgen Biotech	300 Rxn	
Lactuca serriola	Letgen Biotech	300 Rxn	
Sorghum halepense	Letgen Biotech	300 Rxn	
Sorghum x alnum	Letgen Biotech	300 Rxn	
Cenchrus sp.	Letgen Biotech	300 Rxn	
Lolium temulentum	Letgen Biotech	300 Rxn	
Iva xanthiifolia	Letgen Biotech	300 Rxn	
Amaranthus palmeri	Letgen Biotech	300 Rxn	
Cuscuta sp.	Letgen Biotech	300 Rxn	
Orobanche sp.	Letgen Biotech	300 Rxn	
Solanum rostratum	Letgen Biotech	300 Rxn	
Emex australis	Letgen Biotech	300 Rxn	
Bunias orientalis	Letgen Biotech	300 Rxn	

Bursaphelenchus xylophilus	Letgen Biotech	300 Rxn	Nematode
Bursaphelenchus mucronatus	Letgen Biotech	300 Rxn	
Universal Phytoplasma	Letgen Biotech	300/100 Rxn	Phytoplasma
Almond Witches' broom	Qualiplante	100 Rxn	
AP Group	Qualiplante	100 Rxn	
Flavescence doree & Bois noir	Qualiplante	100 Rxn	
Trogoderma sp.	Letgen Biotech	300 Rxn	Arthtopod (Bugs)
Anoplophora chinensis	Letgen Biotech	300 Rxn	

Genotyping Kits

Tomato Purity Genotyping Test	Letgen Biotech	300 rxn
Cucumber Purity Genotyping Test	Letgen Biotech	300 rxn
Melon Purity Genotyping Test	Letgen Biotech	300 rxn
Cotton Purity Genotyping Test	Letgen Biotech	300 rxn
Watermelon Purity Genotyping Test	Letgen Biotech	300 rxn
Pepper Purity Genotyping Test	Letgen Biotech	300 rxn
Cotton Purity Genotyping Test	Letgen Biotech	300 rxn

Nucleic Acid Purification Kits

26200	Plant/Fungi DNA Isolation Kit	DNA preparation	50 Preps
26250	Plant/Fungi DNA Isolation Kit	DNA preparation	250 Preps
54700	Plant microRNA Purification Kit	RNA Preparation	25 Preps
25850	Plant/Fungi Total RNA Purification	RNA Preparation	250 Preps
25800	Plant/Fungi Total RNA Purification Kit	RNA Preparation	50 Preps
24400	Plant RNA-DNA Purification Kit	Multianalyte	50 Preps
IS001	MagLET Plant RNA Isolation Kit	RNA Preparation	50 Preps
IS002	MagLET Plant RNA Isolation Kit	DNA Preparation	50 Preps



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