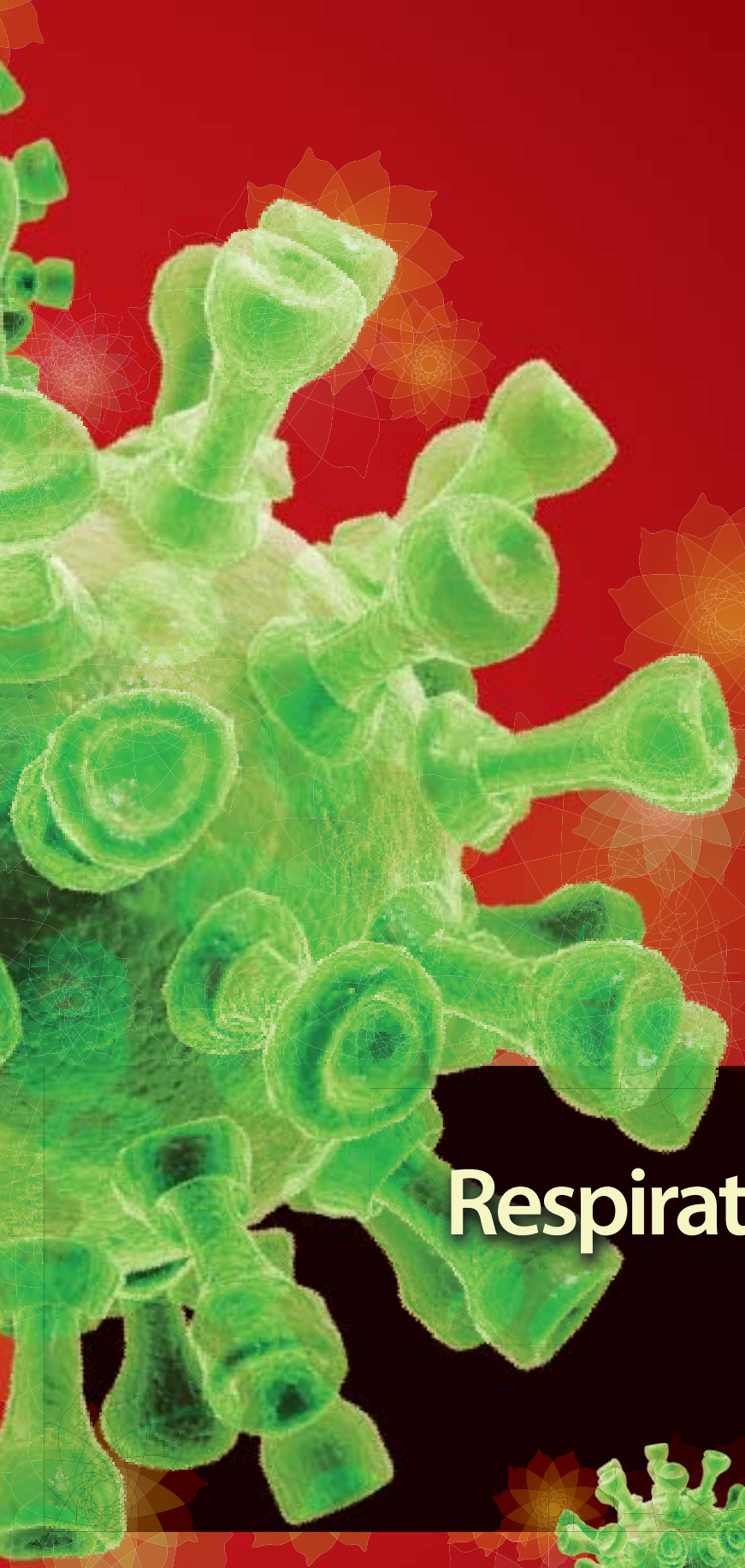


Seeplex®

Detection of Respiratory Pathogens

Influenza A/B virus typing
7 Respiratory virus detection
12 Respiratory virus detection
15 Respiratory virus detection
6 Respiratory bacteria detection

CE IVD

www.seegene.com

Seegene

Seeplex®
Respiratory Pathogen
Detection Products

Specimen

Nasopharyngeal swab
Nasopharyngeal aspirate
Bronchoalveolar lavage
Sputum (for detection of respiratory bacteria)

Influenza A/B OneStep Typing

Seeplex® ACE | Medical Device License by Health Canada | CE IVD

Features

- Typing of influenza A and B viruses
- Subtyping of influenza A (H1, H3)
- Differentiation of (H1N1) & seasonal influenza A (H1N1)
- cDNA synthesis and multiplex PCR in one-step reaction

WHO information for laboratory diagnosis of pandemic (H1N1) 2009 virus in humans (18 August 2009)

Influenza A virus (Common)
2009 pandemic H1
Human seasonal influenza A (H1)
Human seasonal influenza A (H3)

→ Follow WHO Guideline

Analytes - Set (A)

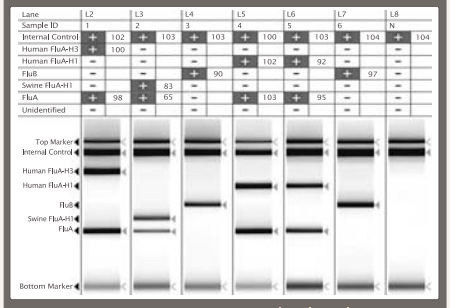
Influenza B virus
Influenza A virus (Common)
2009 pandemic H1
Human seasonal influenza A (H1)
Human seasonal influenza A (H3)

Interpretation of laboratory results :

PCR -A sample is considered positive if results from tests using two different PCR targets (e.g. primers specific for universal M gene and swine H1 haema- gglutinin gene) are positive but the PCR for human H1 + H3 is negative. If RT-PCR for multiple haemagglutinin (HA) targets (i.e. H1, H3, and H1-pandemic) give positive results in the same specimen, the possibility of PCR contamination should first be excluded by repeating PCR procedure using new RNA extract from the original specimen or RNA extract from another specimen. If repeated positive results for multiple HA targets are obtained, this raises the possibility of co-infection, which should be confirmed by sequencing or virus culture.

(http://www.who.int/csr/resources/publications/swineflu/WHO_Diagnostic_ Recommendations H1N1_20090521.pdf)

Result | ScreenTape® System (Agilent Technologies)



1~6 : Clinical samples, N : Negative

* 96 well format

• Seeplex® Influenza A/B OneStep Typing (FluB, FluA, 2009 pandemic H1, H1, H3)

0h 1h 2h 3h 4h 5h

One-Step Multiplex RT-PCR → Auto-detection

94 samples
470 results
in 5.5h

• Existing Real-time RT-PCR (FluA, 2009 pandemic H1, H1, H3)

0h 1h 2h 3h 4h 5h

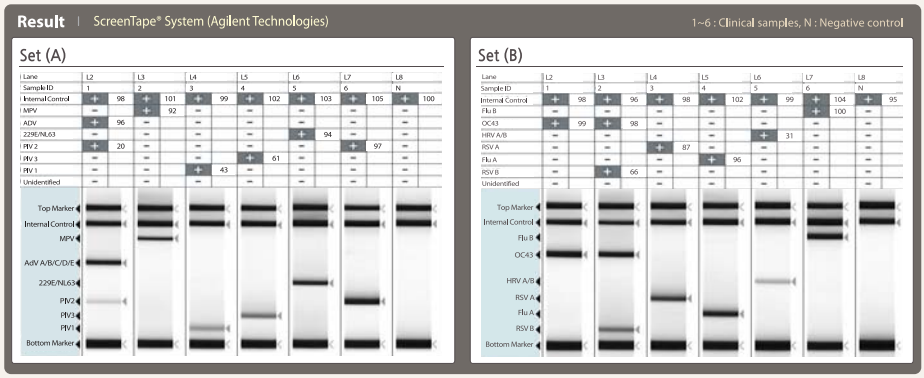
Real-time PCR → Real-time PCR

44 samples
176 results
in 5h

RV12 ACE Detection

Seeplex® ACE Medical Device License by Health Canada CE IVD

Simultaneous detection of 6 respiratory bacteria



Analytes - Set (A)

Metapneumovirus
Adenovirus A/B/C/D/E
Coronavirus 229E/NL63
Parainfluenza virus 1,2,3

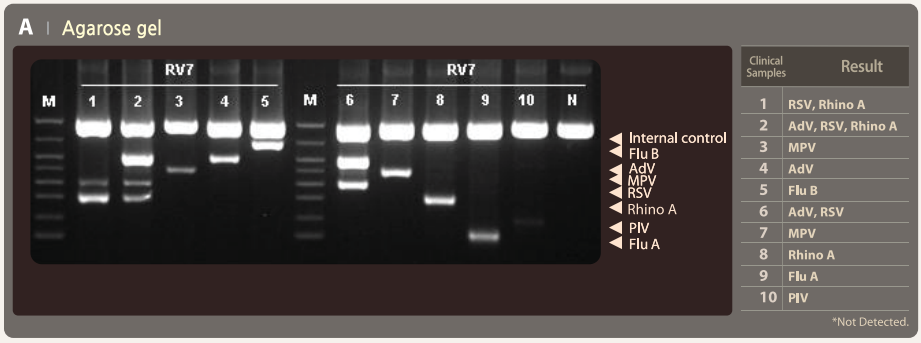
Analytes - Set (B)

Influenza virus A,B
Respiratory syncytial virus A, B
Rhinovirus A/B
Coronavirus OC43

RV7 Detection

Seeplex® GEL Medical Device License by Health Canada CE IVD

Simultaneously detecting major respiratory viruses



Clinical Samples	Result
1	RSV, Rhino A
2	AdV, RSV, Rhino A
3	MPV
4	AdV
5	Flu B
6	AdV, RSV
7	MPV
8	Rhino A
9	Flu A
10	PIV

*Not Detected.

Analytes

Influenza B virus
Adenovirus
Metapneumovirus
Respiratory syncytial virus A/B
Rhinovirus A
Parainfluenza virus 1/2/3
Influenza A virus

Related publications

1) Kim et al., Rapid detection and identification of 12 respiratory viruses using a dual priming oligonucleotide system-based multiplex PCR assay. J Virol Methods. 2009 Mar;156(1- 2): 111-6. Epub 2008 Dec 247.

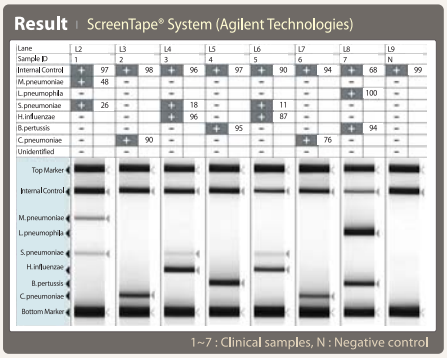
2) Drews et al., Use of the Seeplex RV Detection kit for surveillance of respiratory viral outbreaks in Toronto, Ontario, Canada. Ann Clin Lab Sci. 2008;38(4):376-379.

3) Kim et al., Detection and clinical manifestations of twelve respiratory viruses in hospitalized children with acute lower respiratory tract infections : Focus on human metapneumovirus, human rhinovirus and human coronavirus. Korean Journal of Pediatrics, 2008; 51(8):834-841.

PneumoBacter ACE Detection

Seeplex® ACE CE IVD

Simultaneous detection of 6 respiratory bacteria



Bacteria causing typical pneumonia

Streptococcus pneumoniae
Haemophilus influenzae

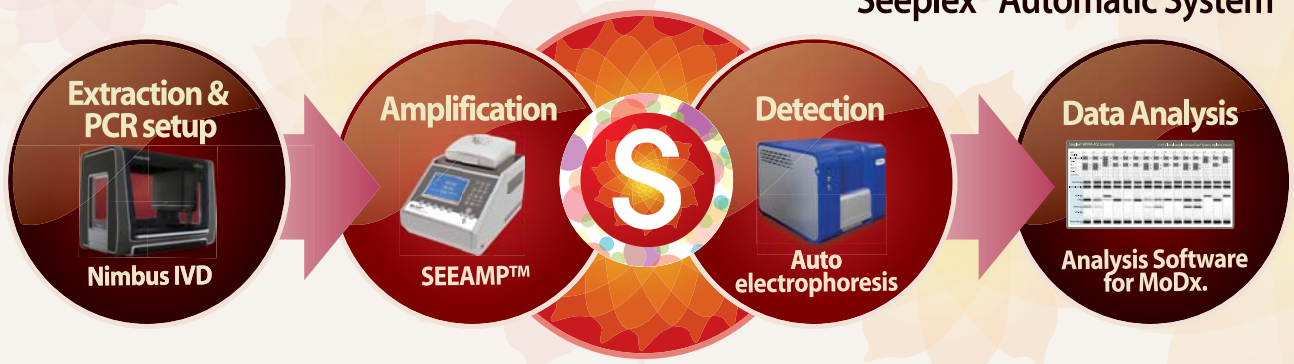
Bacteria causing atypical pneumonia

Chlamydophila pneumoniae
Legionella pneumophila
Bordetella pertussis
Mycoplasma pneumoniae

Related publications

1) Cho MC, et al., Ann Lab Med, 2012;32: 133~138
2) Loens K, et al., J Microbiol Methods, 2010; 82(2): 131-5.
3) Lim JS et al., J Microbiol Methods, 2010; 53(3): 373-9.
4) Jung CL, et al., Korean J Clin Microbiol, 2010;13(1): 40-6.
5) Shin JH, et al., Korean J Pediatr, 2009; 52(12): 1358-63.
6) Lee KS, et al., Korean J Pediatr Infect Dis, 2009;16 (2):175-82.
7) Park J, et al., Korean J Lab Med, 2009; 29(4): 307-13.
8) Higgins RR, et al., Ann Clin Microbiol Antimicrobial, 2009;8(10):1-9.

Seeplex® Automatic System



Automated Extraction and PCR Setup

Nimbus IVD

Certification CE IVD

Automated Liquid Handling Workstations from NA Extraction to PCR Setup

A. Automated DNA/RNA extraction and PCR setup
B. Wide range of pipetting volume : 0.5 ~ 1,000 uL
C. Minimized hands-on time
D. No manual pipetting required
E. 48 samples processed in 2.5hrs
F. Enclosed system and liquid waste system preventing contamination
G. Built in UV lamp for decontamination of residual DNA/RNA
H. Handheld barcode scanner

(Hamilton) Cat. No. 65415-02

Automatic Detection & Analysis

LabChip® Dx

Certification CE IVD

Accelerating throughput on your PCR work

A. Convenient and no post-PCR contamination
- No need for sample dilution and transfer (ex. Bio-RAD Hard-shell 96 well plate)

B. High throughput
- Minimum 1hr for 96-well plate

C. Precise and reliable data
Stable reagents

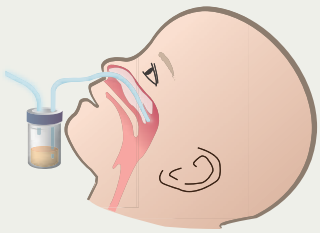
D. Improvements on time and labor savings
- Powerful automated electrophoresis system with barcode reader

E. Barcode system for effective sample traceability
F. Comprehensive and user friendly software

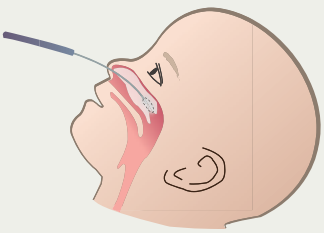
(Caliper LifeSciences) Cat. No. 122000

Sample Collection Method

Nasopharyngeal aspirates



Nasopharyngeal swab



- **Nasopharyngeal aspirates**
  Prepare a bulb syringe or suction apparatus and 3~5ml of saline to collect the specimen. Squeeze the bulb to inject saline, then release the bulb to suction it out.
- **Nasopharyngeal swab**
  Stir the brush into the bottle containing 1~3 ml buffer solution (saline or 1X PBS).
- **Bronchoalveolar lavage (BAL)**
  Method used for a cleaning purpose during the bronchoscopy process.

RV15 ACE Detection

Seeplex® ACE Medical Device License by Health Canada CE IVD

Simultaneous detection of currently the most known respiratory viruses

Analytes - Set (A)

Adenovirus A/B/C/D/E
Coronavirus 229E/NL63
Parainfluenza virus 1
Parainfluenza virus 2
Parainfluenza virus 3

Analytes - Set (B)

Coronavirus OC43
Rhinovirus A/B/C
Influenza A virus
Respiratory syncytial virus A
Respiratory syncytial virus B

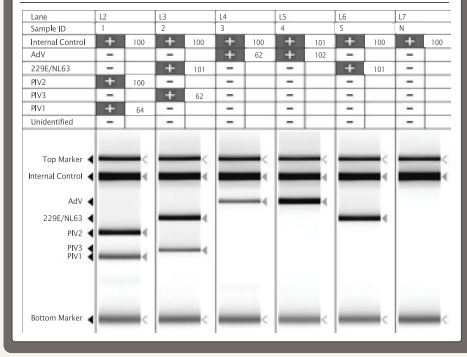
Analytes - Set (C)

Bocavirus 1/2/3/4
Influenza B virus
Metapneumovirus
Parainfluenza virus 4
Enterovirus

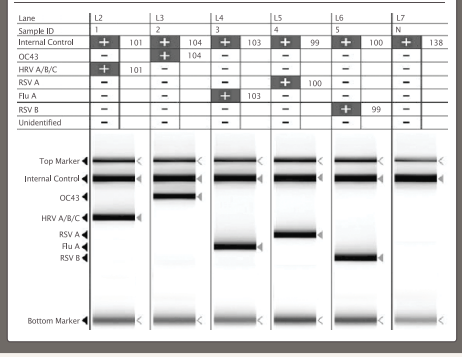
Result | ScreenTape® System (Agilent Technologies)

1~5 : Clinical samples, N : Negative control

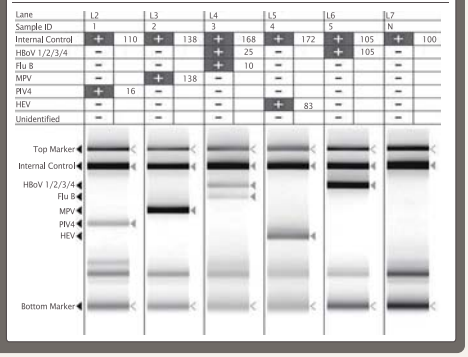
Set (A)



Set (B)



Set (C)



RV15 OneStep ACE Detection

Seeplex® ACE Medical Device License by Health Canada CE IVD

- Including whole process control(extraction & RT-PCR control)
- cDNA synthesis and multiplex PCR in one-step reaction

Analytes - Set (A)

PCR Control
Adenovirus A/B/C/D/E
Coronavirus 229E/NL63
Parainfluenza virus 1
Parainfluenza virus 2
Parainfluenza virus 3

Analytes - Set (B)

PCR Control
Coronavirus OC43
Rhinovirus A/B/C
Influenza A virus
Respiratory syncytial virus A
Respiratory syncytial virus B

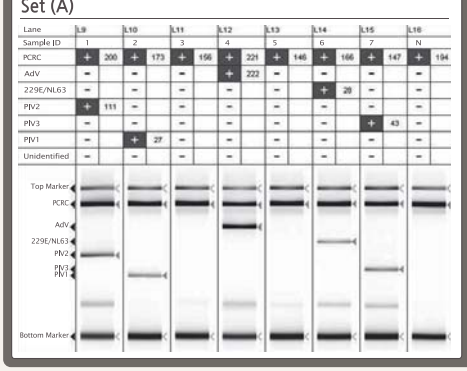
Analytes - Set (C)

Whole Process Control
Bocavirus 1/2/3/4
Influenza B virus
Metapneumovirus
Parainfluenza virus 4
Enterovirus

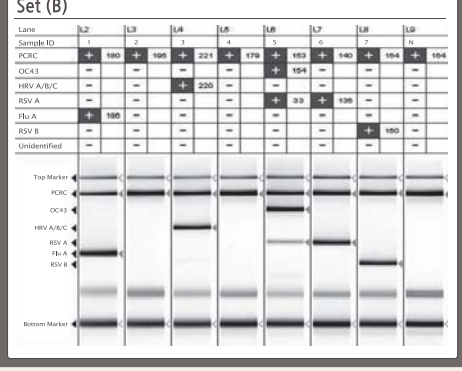
Result | ScreenTape® System (Agilent Technologies)

1~7 : Clinical samples, N : Negative control

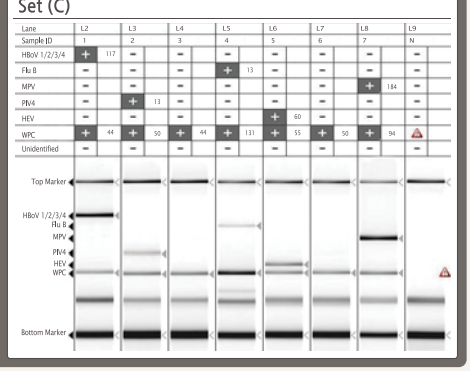
Set (A)



Set (B)



Set (C)



⚠ : Only for set C negative control, no band should appear for WPC.

Seeplex® Key Products

Infectious Pathogen Detection

1. Respiratory Pathogen Detection
2. Tuberculosis Detection
3. STD Pathogen Detection
4. Human Papillomavirus Detection
5. HSV2 ACE Detection
6. Meningitis ACE Detection
7. Diarrhea ACE Detection

Somatic MutationDetection

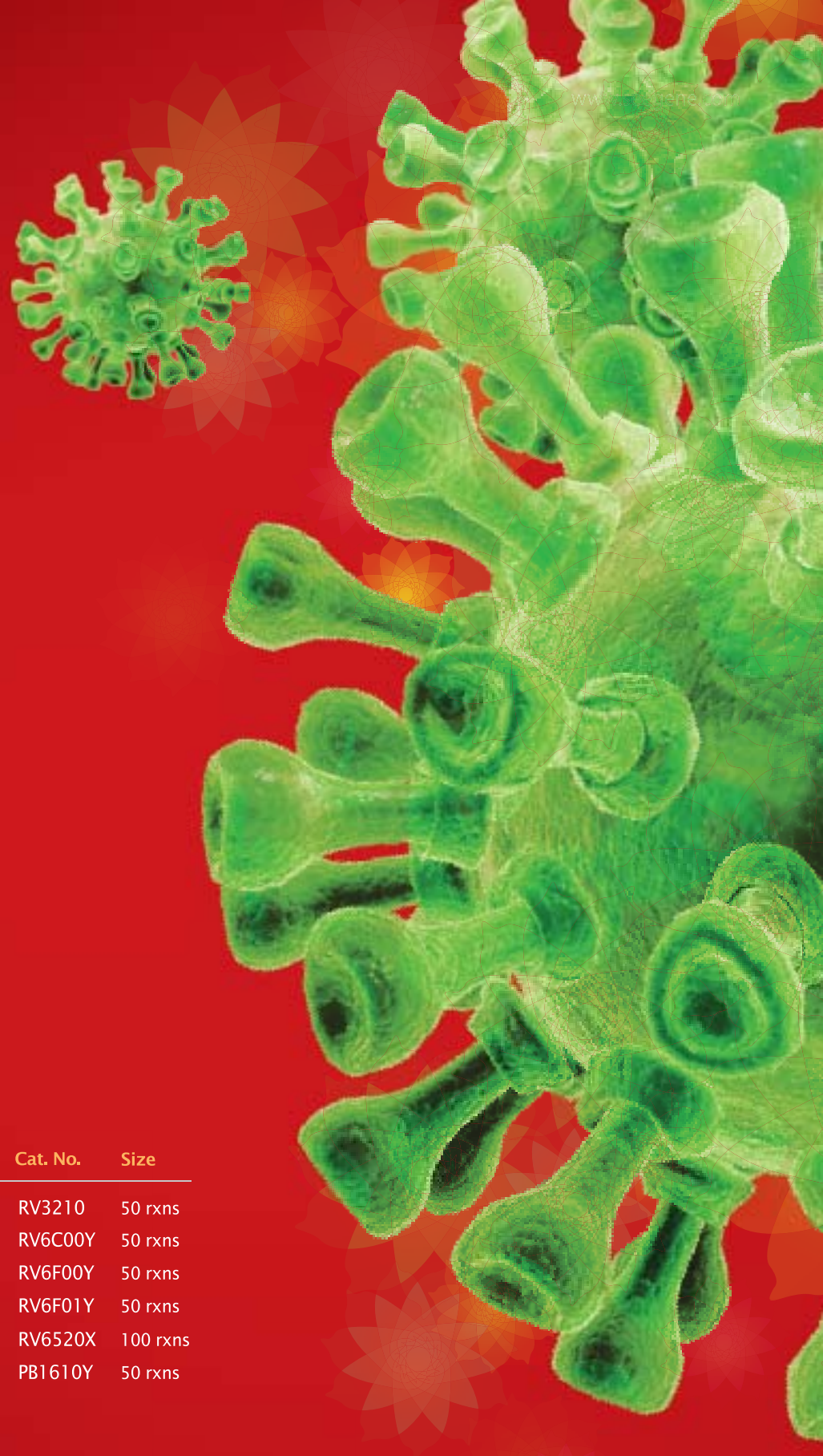
1. BRAF V600E ACE Detection
2. Leukemia Detection

Drug ResistanceDetection

1. ClaR-H. pylori ACE Detection
2. HBV Lami-resistant ACE
3. VRE ACE Detection

SNP Detection

1. ApoE Genotyping
2. CYP2C19 ACE Genotyping
3. MTHFR Genotyping



Respiratory Pathogen Detection Products

	Cat. No.	Size
Seeplex® RV7 Detection	RV3210	50 rxns
Seeplex® RV12 ACE Detection	RV6C00Y	50 rxns
Seeplex® RV15 ACE Detection	RV6F00Y	50 rxns
Seeplex® RV15 OneStep ACE Detection	RV6F01Y	50 rxns
Seeplex® Influenza A/B OneStep Typing	RV6520X	100 rxns
Seeplex® PneumoBacter ACE Detection	PB1610Y	50 rxns

Seegene

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TEL : +49 (0) 6196-769-3468, FAX : +49 (0) 6196-769-4137
E-mail: eu@seegene.com

Not Available in U.S.

RV60-EN120716B01