Molecular diagnostics of respiratory pathogens

Reliable real-time PCR solution

Practical:
Same workflow and same cycler profile for all RIDA®GENE products

Reliable:
All controls (internal, positive, negative) are included in the kit

Rapid:
Results in less than 2h

More information:

https://r-b.io/respi_EN

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Information on our product portfolio
Detection of respiratory pathogens

Benefits

High analytical sensitivity
Device detection limit
- RNA assay > 50 copies/reaction
- DNA assay > 10 copies/reaction *

High analytical specificityt
- Verification of potentially interfering substances
- Verification of cross-reactivity

Quality
Development and manufacturing in Germany under ISO 13485

* Exception: CAP Bac > 50 copies/reaction

Parameters

Viruses
- SARS-CoV-2
- Influenza (A/B)
- H1N1v
- RSV
- Adenovirus
- Parainfluenza (1/2/3/4)
- hMPV

Bacteria
- *Bordetella pertussis*
- *Bordetella holmesii*
- *Bordetella parapertussis*
- *Chlamydophila pneumoniae*
- *Mycoplasma pneumoniae*
- *Legionella pneumophila*

Fungi
- *Pneumocystis jirovecii*

Diagnostics of respiratory pathogens

Respiratory infections are widespread and are caused by a broad spectrum of pathogens. To control the spread of these mostly highly infectious pathogens, rapid diagnosis is essential. The RIDA®GENE tests offer a reliable and efficient way to detect a broad spectrum of respiratory pathogens, such as viruses, bacteria and fungi, in less than 2 hours.

Reliable and rapid identification of the pathogen using the RIDA®GENE tests is essential for both appropriate patient treatment and prevention of further pathogen transmission.

Respiratory infections

Influenza, is a contagious respiratory infectious disease caused in humans by influenza A and influenza B viruses[1]. The disease symptoms of **SARS-CoV-2 & Influenza** virus infections are quite similar, including fever, cough & cold. SARS-Co-2 infections can vary widely in symptomatology and serverity (asymptomatic to severe pneumonia with respiratory failure and death)[2, 3].

RSV, hMPV and **Influenza** are the most predominant viral pathogens during the winter season, according to studies[4].

RSV is associated with significant morbidity and mortality not only in children but also in elderly people, patients with preexisting conditions, and immunocompromised adults [5,6,7].

hMPV infections can occur all year, but peaks of infection at the end of the winter season are common. Coinfections with other respiratory pathogens, e.g. RSV, have already been described several times[5,6,7].

Parainfluenza viruses (HPIV) can also cause a variety of respiratory diseases. The clinical picture differs among types: HPIV-1 and -2 commonly cause croup and cold-like symptoms, while HPIV-3 is often associated with pneumonia and bronchiolitis. HPIV-4 is less well characterized to date, but is assumed to have a similar clinical picture to HPIV-3[8].

Pneumocystis jirovecii is an opportunistic pathogen that occurs in the human lung and causes *Pneumocystis jirovecii* pneumonia (PJP)[9].

Opportunistic infections are a major problem in immunocompromised patients (e.g. due to HIV/ AIDS, cancer, etc.) as their body cannot fight infections well. PJP causes symptoms including fever, cough, shortness of breath, chest pain, chills and exhaustion.

Community-acquired pneumonia (CAP) is the most frequently recorded infectious disease worldwide and leads to death in Western nations. Bacteria are the most common causative agents of CAP, and a distinction is drawn between typical and atypical pathogens[10]. Atypical CAP bacteria are difficult to detect. The most frequent atypical CAP bacteria include *Mycoplasma pneumoniae*, *Legionella* spp. and *Chlamydophila pneumoniae*[11].

Bordetella pertussis, Bordetella parapertussis and ***Bordetella holmesii*** cause respiratory diseases. The clinical course of a *Bordetella* infection proceeds through three stages. Symptoms include cold, cough, and low-grade fever[12,13]. ***B. pertussis*** is the main causative agent of whooping cough[13]. Less frequently, infections with *B. parapertussis* or *B. holmesii* can also lead to a clinical picture similar to whooping cough. However, the course of this disease is usually milder and shorter than in the case of disease caused by *B. pertussis*.

Ordering information

Product	Matrix	Analyt (Target)	Art. No.
RIDA®GENE Flu	Nasal-/throat swabs	Influenza A (M protein gene), Influenza B (NP gene), H1N1v (H1 gene)	PG0505
RIDA®GENE Flu & SARS-CoV-2	Nasal-/throat swabs	Influenza A (M gene), Influenza B (NP1 gene), SARS-CoV-2 (E gene; RdRp gene)	PG6825
RIDA®GENE Flu & RSV	Nasal-/throat swabs; BAL	Influenza A (M protein gene), Influenza B (NP1 gene), RSV (F gene)	PG0545
RIDA®GENE RSV & hMPV	Nasal-/throat swabs	RSV A/B = F-Gen, hMPV A/B = F-Glycoprotein	PG5905
RIDA®GENE Parainfluenza	Nasal-/throat swabs; BAL	Parainfluenza 1, Parainfluenza 3, Parainfluenza 2/4 (HN gene)	PG5805
RIDA®GENE Adenovirus	Nasopharyngeal swabs	Adenovirus (Hexon)	PG1005
RIDA®GENE Bordetella	BAL	*B. pertussis* (IS481), *B. parapertussis* (pIS1001), *B. holmesii* (IS481, hIS1001)	PG2505
RIDA®GENE CAP Bac	BAL	*Cp. pneumoniae* (16S rRNA), *L. pneumophila* (16S rRNA), *M. pneumonia* (IGS)	PG2705
RIDA®GENE Pneumocystis jirovecii	Nasal-/throat swabs	*P. jirovecii* (mt LSU; large subunit)	PG1905

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