

# SmartNotes

## Coronavirus:

### Associated viral and bacterial infection identification

Patients with respiratory infections may present symptoms similar to those associated with coronavirus, making fast and accurate pathogen identification more difficult. There is also an increased risk of bacterial co-infection in patients that require breathing assistance as the virus takes hold.

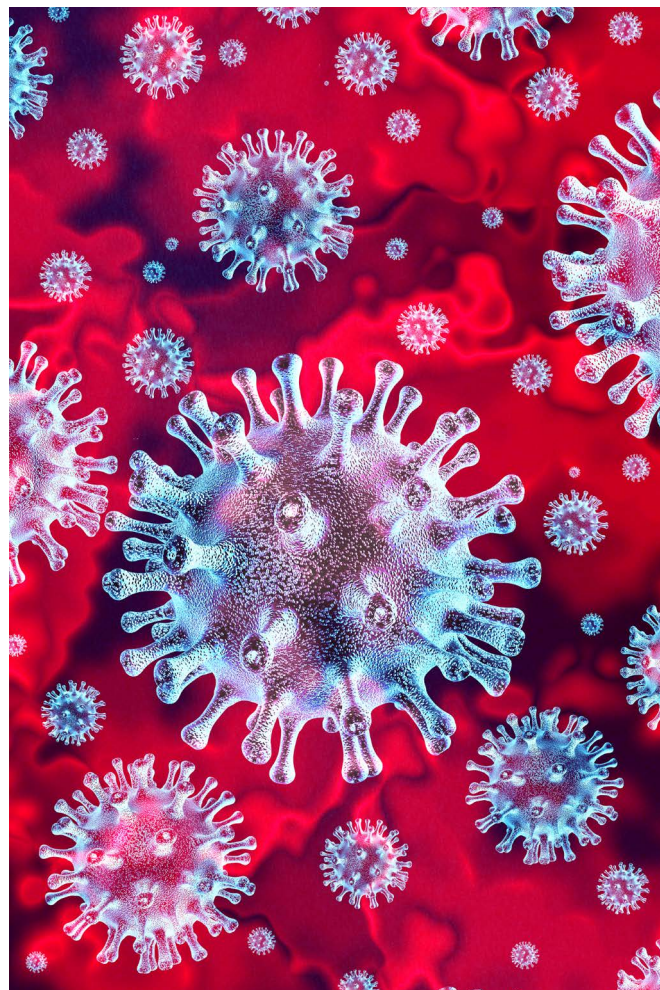
Identification of similar or related infections is vital to rapidly address the outbreak.

While data is still emerging, reports have suggested that 15% of hospitalized coronavirus patients developed a secondary bacterial infection, such as ventilator-associated pneumonia (VAP)<sup>1</sup>. Among patients who died from coronavirus, 16% of patients had secondary infections<sup>2</sup>.

The collection, transport and identification of samples, along with accurate treatment is vital to reducing patients' time in hospital and ultimately saving lives.

Thermo Fisher Scientific™ provide sampling, media, identification and susceptibility testing products, together with QC organisms to support the accurate identification and treatment of viral and bacterial infections.

We're listening to our customers and are aware that there are regional differences in causation of related co-bacterial infections. Your feedback is vital for Thermo Fisher Scientific to support you. Contact your local sales representative for support tailored to your laboratory throughput.



### Viral infections with symptoms similar to coronavirus

Rule in/out the presence of viral infections which may present similar symptoms to coronavirus.

### Quality control organisms for bacterial respiratory infections

Every laboratory requires quality control (QC) organisms to validate test results against stabilized, viable microorganisms. Thermo Scientific Culti-Loops™ are ready-to-use QC organisms, for use at each stage of the workflow.



### Bacterial respiratory co-infections

Address an increase in patients with ventilator-associated pneumonia (HAP/VAP), or bacterial respiratory co-infections which can prolong the duration of ventilator use and length of hospital stay.

### Viral infections with symptoms similar to coronavirus

Rule in/out the presence of viral infections which may present similar symptoms to coronavirus.

#### Ordering information for expanded product range in response to coronavirus pandemic

Product	Usage	Product code
<b>Collection and transport</b>		
Thermo Scientific™ MicroTest™ Tubes	Viruses, <i>chlamydiae</i>	R21587
Thermo Scientific™ MicroTest™ Tubes without beads	Viruses, <i>chlamydiae</i>	R12591
Polyester Tipped Swabs	Oropharyngeal swab	R12548
<b>Detect and isolate</b>		
Thermo Scientific™ Xpect™ Flu A & B Test	Influenza A, influenza B viral antigens	R24600
Thermo Scientific™ Xpect™ RSV Test	Respiratory Syncytial Virus (RSV)	R24601
Thermo Scientific™ Remel™ Xpect™ Flu A and B Control Swab	Flu A & B control swabs	R246003
Thermo Scientific™ Remel™ Xpect™ RSV Control Kit	RSV control kit	R246012
Thermo Scientific™ Remel™ PathoDX™ Respiratory Virus Panel, Respiratory Virus	Influenza A, influenza B, Adenovirus, Parainfluenza 1, 2, 3, RSV	R62400

All products available globally. \* Product on global allocation

## Bacterial respiratory co-infections

Address an increase in patients with ventilator-associated pneumonia (HAP/VAP), or bacterial respiratory co-infections which can prolong the duration of ventilator use and length of stay.

### Ordering information

Product	Usage	Product code
<b>Collection and transport</b>		
Thermo Scientific™ Remel™ BactiSwab™ Wire Shaft Amies Clear	Wire Shaft Amies Clear is supplied with a mini-tip swab suitable for ear, nose, throat, eye, male urethral and pediatric specimen collection	R723025
<b>Detect and isolate</b>		
Thermo Scientific™ Remel™ Columbia Blood Agar w/ 3% Sheep Blood	General-purpose medium for cultivation, isolation and hemolytic determination of microorganisms	R01214
Thermo Scientific™ Columbia CNA Agar with Sheep Blood Medium	Identify <i>staphylococci</i> and <i>streptococci</i>	R01320
Thermo Scientific™ Remel™ Blood Agar w/Gentamicin	Selective isolation of <i>Streptococcus pneumoniae</i>	R01227
Thermo Scientific™ Remel™ Chocolate Agar w/Bacitracin	Isolation of <i>Haemophilus</i> from respiratory specimens containing mixed flora	R01304
Thermo Scientific™ Remel™ Schaedler Agar w/Blood, Hemin, Vitamin K	Isolation of anaerobic bacteria from clinical specimens	R01800
Thermo Scientific™ Loewenstein-Jensen Medium	Isolation of Mycobacteria from clinical specimens	TV5112 TV5122C
Thermo Scientific™ MacConkey Agar Medium	Detect and enumerate coliform organisms, including <i>E. coli</i> , while isolating and detecting <i>Salmonella</i> and <i>Shigella</i> specimens	R01562
Thermo Scientific™ Spectra™ MRSA Medium	Chromogenic screening plate for Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA)	R01821
Thermo Scientific™ VersaTREK™ REDOX™ Media	Aerobic media	7103-44
Thermo Scientific™ VersaTREK™ REDOX™ Media	Anaerobic media	7102-44
Thermo Scientific™ Signal™ Blood Culture System	Detect the growth of aerobic, anaerobic and micro-aerophilic organisms from blood samples	BC0100M
<b>Identify</b>		
Thermo Scientific™ Remel™ BactiDrop™ PYR	Presumptive identification of group A streptococci and <i>enterococci</i>	R21544
Thermo Scientific™ Oxoid™ O.B.I.S. PYR	Detection of PYRase activity in streptococcal microorganisms and <i>Citrobacter sp.</i> from culture	ID0580M
Thermo Scientific™ DrySpot™ Pneumo Latex Agglutination Test	Detection of capsular antigen from <i>Streptococcus pneumoniae</i> to provide rapid identification of <i>Strep. pneumoniae</i> isolated from culture plates and blood culture	DR0420M
Thermo Scientific™ Wellcogen™ Streptococcus pneumoniae Rapid Latex Agglutination Test	Detection of capsular antigen from <i>Streptococcus pneumoniae</i> (Pneumococcus)	R30859001
Thermo Scientific™ Remel™ PathoDextra™ Strep Grouping Kit	For identification of Group A, B, C, D, F and G streptococcus	DR0700M
Thermo Scientific™ Staphaurex™ Plus Latex Agglutination Test	Identify staphylococci which possess clumping factor, protein A, and/or surface antigens, including those characteristic of Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA) and Methicillin Sensitive <i>Staphylococcus aureus</i> (MSSA) strains	R30950102
Thermo Scientific™ Oxoid™ PBP2' Latex Agglutination Test Kit	Detection of PBP2' as an aid in identifying methicillin resistance in both <i>Staphylococcus aureus</i> (MRSA) and coagulase-negative staphylococci.	DR0900A
Thermo Scientific™ Remel™ Gram Stain Kit, 4 x 250 mL bottles	Differentiate Gram-positive from Gram-negative microorganisms	R40080

Product	Usage	Product code
Thermo Scientific™ Rapid™ ONE System	Identify medically important Enterobacteriaceae and other selected oxidase-negative, Gram-negative bacilli isolated from human clinical specimens	R8311006
Thermo Scientific™ Sensititre™ Gram Negative GNID ID Plate	Obtain presumptive identification of Gram-negative organisms in just five hours, or obtain species level identification with overnight incubation	GNID
Thermo Scientific™ Sensititre™ Gram Negative GPID ID Plate	Obtain species-level identification of Gram-positive organisms with overnight incubation	GPID
<b>Susceptibility Test</b>		
<b>Test multiple antibiotics simultaneously, on a plate format which can be run either manually, or using scalable automated instrumentation options to meet laboratory throughput.</b>		
Thermo Scientific™ Sensititre™ Gram Negative AST Plate	Perform susceptibility testing of multidrug-resistant, Gram-Negative isolates against a comprehensive range of second-line antimicrobials on a single platform	MDRGN1F MDRGNX1F*
Thermo Scientific™ Sensititre™ Streptococcus FDANDSF AST Plate	Perform antimicrobial susceptibility testing (AST) of <i>Streptococcus</i> isolates	FDANDSF
Thermo Scientific™ Sensititre™ Streptococcus STP6F AST Plate	Perform antimicrobial susceptibility testing (AST) of <i>Streptococcus</i> isolates	STP6F
Thermo Scientific™ Sensititre™ Haemophilus and Streptococcus HPB1 AST Plate	Perform antimicrobial susceptibility testing (AST) of <i>Haemophilus</i> and <i>Streptococcus</i>	HPB1
Thermo Scientific™ Sensititre™ Gram Negative GN7F AST Plate	Perform antimicrobial susceptibility testing (AST) of Gram-negative isolates on a single plate which includes antimicrobials ceftazidime/avibactam and ceftolozane/tazobactam	GN7F
Thermo Scientific™ Sensititre™ Gram Positive AST Plate	Perform antimicrobial susceptibility testing (AST) of non-fastidious Gram-positive isolates	GPALL3F FDANDPF
<b>Latest disc formats to support testing against multiple drug resistant bacteria.</b>		
Thermo Scientific™ Oxoid™ Ceftazidime/Avibactam Antimicrobial Susceptibility Disks	Ceftazidime/Avibactam is indicated for the treatment of complicated urinary tract infections, including pyelonephritis, in patients 18 years or older. In combination with metronidazole, it is also indicated for the treatment of complicated intra-abdominal infections. (CLSI or EUCAST compliant)	CT1947B CT1948B
Thermo Scientific™ Oxoid™ Meropenem/Vaborbactam MEV30 Antimicrobial Susceptibility Discs	Perform antimicrobial susceptibility testing (AST) of carbapenem-resistant-Enterobacteriaceae (CRE). (CLSI or EUCAST compliant)	CT1949B

\* Research use only

Thermo Scientific™ Sensititre AIM™  
Automated Inoculation Delivery System





## Quality control organisms for bacterial respiratory infections

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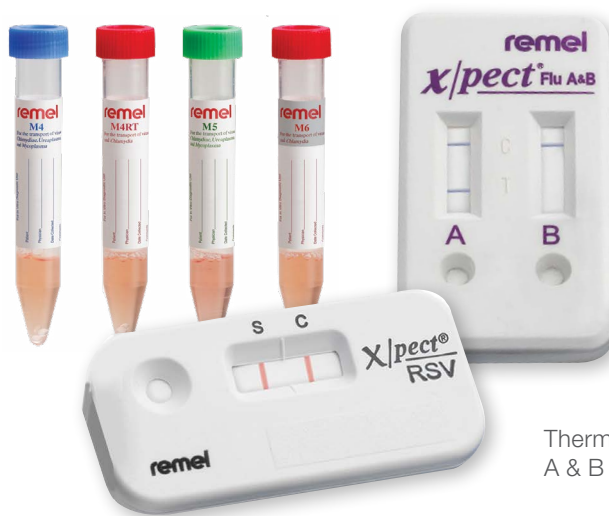
### Ordering information

Product	Collection & transport	Detect & isolate	Identify	Susceptibility test	Product code
<i>Campylobacter jejuni</i> subsp. <i>jejuni</i> ATCC® 33291™	✓				R4601400
<i>Candida albicans</i> ATCC® 10231™		✓			R4601503
<i>Citrobacter freundii</i> ATCC® 8090™		✓			R4601800
<i>Enterococcus faecalis</i> ATCC® 29212™		✓	✓	✓	R4607030
<i>Enterococcus faecalis</i> ATCC® 51299™				✓	R4601996
<i>Escherichia coli</i> ATCC® 25922™		✓		✓	R4607050
<i>Haemophilus influenzae</i> ATCC® 49766™				✓	R4603806
<i>Haemophilus influenzae</i> Type b ATCC® 10211™	✓	✓			R4603810
<i>Neisseria gonorrhoeae</i> ATCC® 43069™	✓				R4607043
<i>Neisseria gonorrhoeae</i> ATCC® 49226™		✓			R4609006
<i>Proteus hauseri</i> ATCC® 13315™		✓			R4607057
<i>Proteus mirabilis</i> ATCC® 12453™		✓			R4607059
<i>Proteus vulgaris</i> ATCC® 8427™		✓			R4607058
<i>Pseudomonas aeruginosa</i> ATCC® 27853™		✓		✓	R4607060
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Typhimurium ATCC® 14028™			✓		R4606000
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar Enteritidis ATCC® 13076™			✓		R4608200
<i>Shigella flexneri</i> serovar 2b group B ATCC® 12022™	✓				R4608101
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC® 25923™		✓		✓	R4607010
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> ATCC® 29213™				✓	R4607011
<i>Staphylococcus epidermidis</i> ATCC® 12228™		✓			R4606500
<i>Streptococcus agalactiae</i> group B ATCC® 12386™			✓		R4607027
<i>Streptococcus pneumoniae</i> ATCC® 49619™				✓	R4609015
<i>Streptococcus pneumoniae</i> ATCC® 6305™		✓			R4607024
<i>Streptococcus pyogenes</i> ATCC® 19615™	✓	✓	✓		R4607000
<i>Streptococcus sanguinis</i> Type 1 ATCC® 10556™		✓			R4607023



Thermo Scientific Culti-Loops  
Quality Control Microorganisms

Thermo Scientific™  
MicroTest™ Tubes



Thermo Scientific™ Xpect™ Flu  
A & B and Xpect RSV Test

#### References

1. Zhou F, Yu T, Du R, *et al.* Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet.* 2020 Mar 11[Online ahead of print].
2. Ruan Q, Yang K, Wang W *et al.* Clinical predictors of mortality due to COVID-19 based on an analysis of data of 150 patients from Wuhan, China. *Intensive Care Med* (2020). <https://doi.org/10.1007/s00134-020-05991-x>

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#### Contact information:

microbiology.ts.us@thermofisher.com  
USA +1 800 255 6730  
International +44 (0) 1256 841144

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