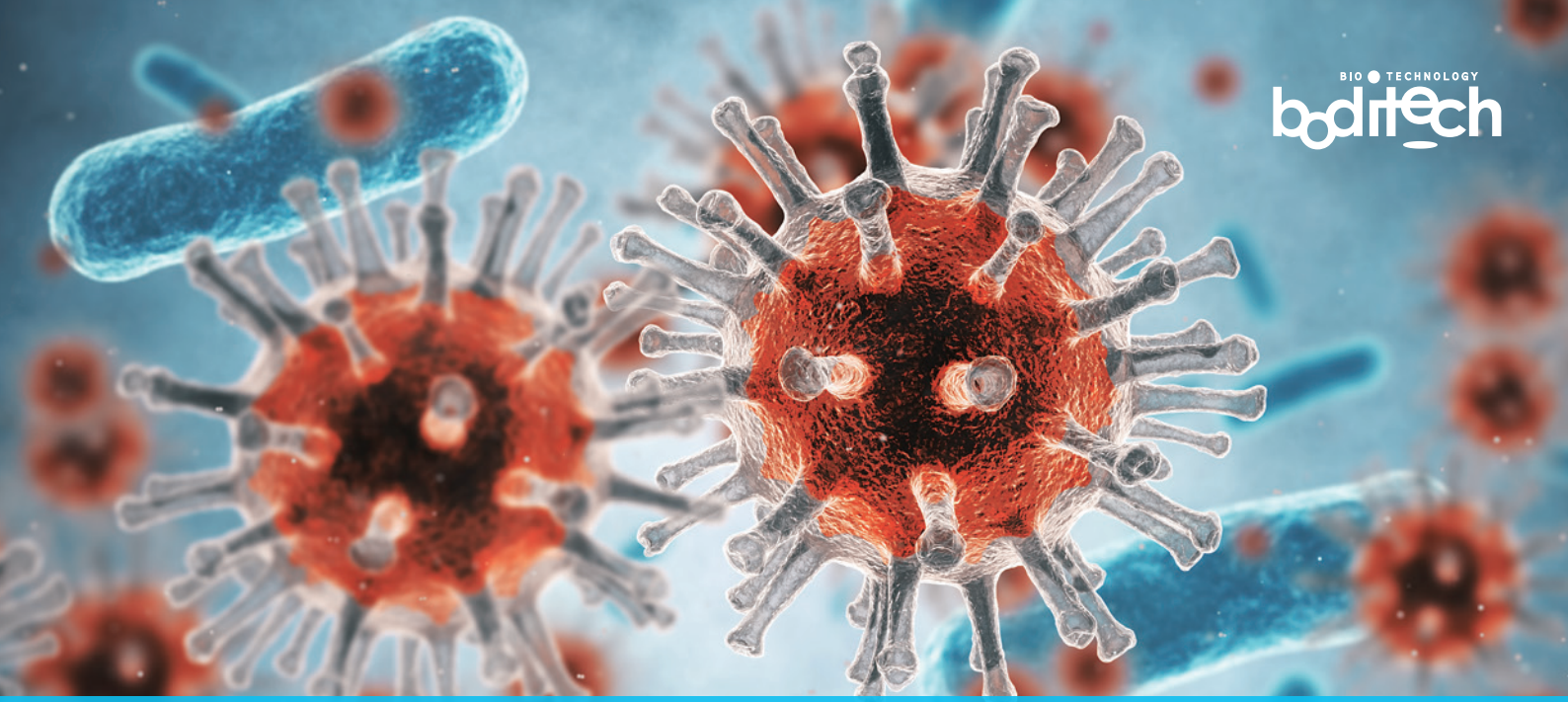


AFIAS MxA/CRP

Myxovirus Resistance Protein A and C-Reactive Protein

World-First Automated Immuno-Fluorescence Quantitative Assay

Reliable Test

The reliable quantitative test result provided by a high-sensitivity fluorescence analyzer

Economical Test

MxA/CRP combo test; Save cost and time by getting two results in one test

POCT: Site-optimized Test

Test with 10 μL of peripheral blood without pipetting (C-tip mode) results are provided within 12 minutes

High utility Test

The most up-to-date tests to differentiate between bacterial and viral infection. Optimize at the site by setting up various sizes of devices

Drug-resistant infections are already common worldwide

50 %

Globally, WHO estimates that only 50 percent of antibiotics are used correctly [1)]

50 million

Of the estimated 154 million prescriptions for antibiotics written in doctor's offices and emergency departments each year, 30 percent are unnecessary. (US. Centers for Disease Control and Prevention CDC, 2016)

90 %

Even though 90% of acute bronchitis is thought to be of viral etiology in the United States, the rate of antibiotic prescribing was shown to be between 60% and 80% [2)]

4,950,000

Estimated 4·95 million deaths associated with bacterial AMR in 2019, including 1·27 million deaths attributable to bacterial AMR. [3)]

COVID-19 has accelerated antibiotic resistance

UP TO

50 %

RECEIVED ANTIBIOTICS

ONLY

15 %

ACTUALLY SUFFERED FROM BACTERIAL INFECTIONS

Despite little evidence of bacterial infections, a high proportion of patients received antibiotics.

Researchers estimate that 56-92% of hospitalized COVID-19 patients received antibiotics, while only 6-15% actually suffered from a bacterial coinfection. [4)]

The new Innovation AFIAS MxA/CRP

Is it a Bacterial or Viral Infection?

Boditech Med keeps challenging to differentiate viral and bacterial infections more accurately and more efficiently.
MxA/CRP test is designed as a combo test to detect a very sensitive virus-specific marker with unique technology.
MxA levels increase significantly in viral infection than in bacterial infection or on-infection cases.

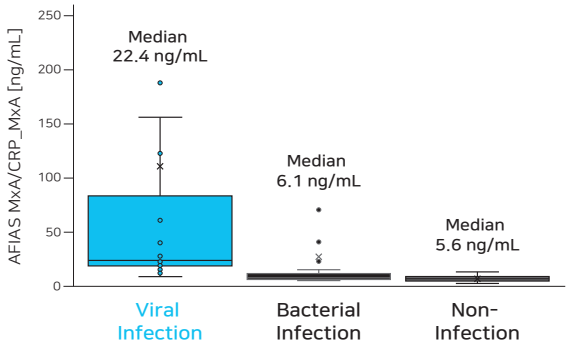


Figure 1. AFIAS MxA levels in viral infection(n=25), bacterial infection(n-39) and Non-infection(n=50) group.

Combination of MxA and CRP

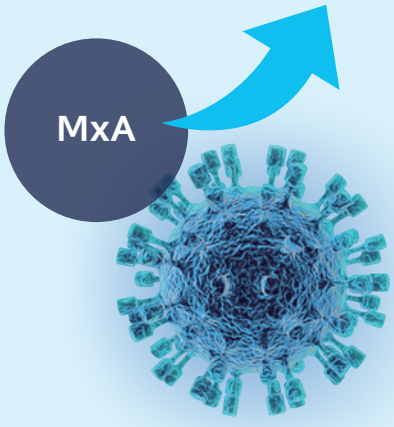
CRP is widely used as an inflammatory marker. CRP levels are elevated in bacterial infection than in viral infection. but it could not differentiate them accurately.
The combination test of MxA and CRP is not only increased the specificity of differentiating viral and bacterial infection but also can improve medical workflow by saving time and cost. [6)]

Clinical diagnosis	Sensitivity		Specificity	
	%	95% CI	%	95% CI
Viral infection	88.0	75.3 - 100.0	94.4	89.6 - 99.2
Bacterial infection	87.2	76.7 - 97.7	88.0	80.6 - 95.4

Table 1. Clinical sensitivity and specificity of AFIAS MxA/CRP to differentiate between viral infection and bacterial infection

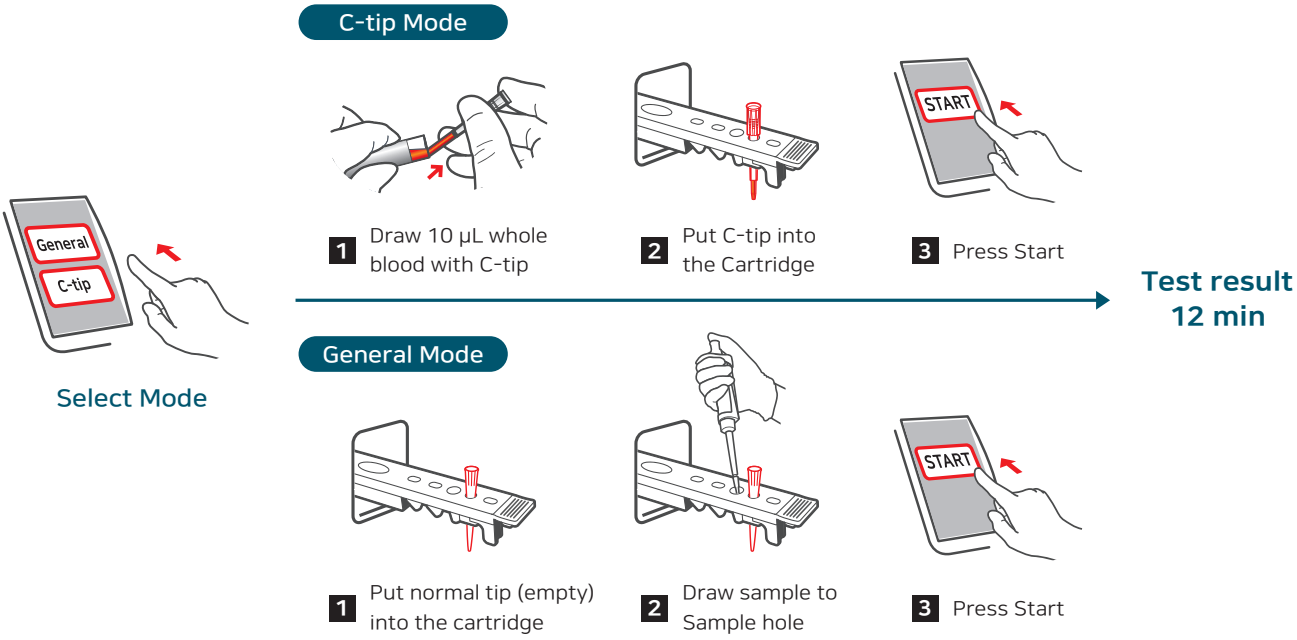
Virus specific marker, Myxovirus Resistance Protein A

MxA is an intracellular blood protein that mediates cellular resistance against a wide range of viruses and elevates in the presence of most acute active viral infections.
In most cases of acute viral infections, type I IFN and MxA is released into the peripheral blood. Detection of INFs in serum is difficult and unreliable due to their short half-life. In contrast, MxA has a long half-life of 2.3 days, a low baseline level of less than 15 ng/mL, and a fast induction time of 1-2 hours after infection. The MxA gene does not respond to other cytokines such as IL-1 or TNF-α. Neither type I IFN nor MxA elevates in healthy patients or those presenting with bacterial infections. [5)]



Maximize User Convenience

** Please check instructions before the test



The New Innovation AFIAS MxA/CRP

Specification	
Sample type	Whole blood
Sample volume	General tip: 150 - 300 µL / C-tip: 10 µL
Reaction time	12 minutes
Storage condition	2 - 30 ℃ (Room temperature)
Expiration date	20 months
Anticoagulant	EDTA(K^{2-}, K^{3-}) / Heparin(Na-, Li-) / Sodium citrate
Working range	MxA: 10.0 - 300.0 ng/mL / CRP: 1.0 - 200.0 mg/L
Limit of detection	MxA: 5.7 ng/mL / CRP: 0.4 mg/L
Cut-off	MxA: 15.0 ng/mL / CRP: 10.0 mg/L
Avaliable analyzer	AFIAS-1, AFIAS-3, AFIAS-6, AFIAS-10
Contents	24 T/box
Cat no.	SMFP-102

1) Jonas, Olga B, et al, Drug-Resistant Infection: a threat to our economic future, World Bank Group, 2017
2) Clark D Russell et al., Co-infections, secondary infections, and antimicrobial use in patients hospitalized with COVID-19 during the first pandemic wave from the ISARIC WHO CCP-UK study: a multicentre, prospective cohort study, Lancet microbe, 2021
3) Antimicrobial Resistance Collaborators, Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, Lancet, 2022
4) AMR: Eroding the Foundations of Health Systems Across the EU and Around the World, Global Coalition on Aging,
5) Patrick Joseph and Eliot Godofsky, Outpatient Antibiotic Stewardship: A Growing Frontier—Combining Myxovirus Resistance Protein A With Other Biomarkers to Improve Antibiotic Use, OFID, 2022
6) Dan Coster et al., Using the kinetics of C-reactive protein response to improve the differential diagnosis between acute bacterial and viral infections, Infection, 2019

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