



Avian Influenza Virus H5/H7/H9 Subtype Lyophilized Nucleic Acid Detection Kit (Fluorescence PCR)

Product Introduction

Avian Influenza Virus (AIV) is a kind of influenza A virus, which is listed as a severe infectious disease of type A by the World Organization for Animal Health (Founded as OIE). According to the antigenicity of the outer membrane hemagglutinin (H) and neuraminidase (N) proteins, it can be divided into 16 H subtypes (H1-H16) and 9 N subtypes (N1-N9). Among avian influenza viruses, highly pathogenic avian influenza is caused by the H5 and H7 subtypes of influenza A virus, which are highly harmful and have a high mortality rate. Additionally, H5N1, H7N9, and H9N2 can be transmitted to humans. Therefore, if not detected timely, it may result in heavy losses for farmers and causing significant economic losses to the poultry breeding industry.

RT-PCR technology has the advantages of specificity and high sensitivity, and real-time PCR method is recommended for laboratory pathogen nucleic acid detection. The detection of avian influenza virus is not only used for disease diagnosis, epidemiological investigation, and pathogenesis research, but also for diagnosing multiple subtypes and distinguishing different subtypes. Bioer Technology has developed products related to nucleic acid testing reagents for avian influenza virus based on its mature molecular diagnostic platform and technological reserves.

Product Features

- **Sample Type:** Animal plasma, serum, swab, tissue, and virus culture can be selected.
- **High Sensitivity:** The detection limit can reach 200copies/ml.
- **High Specificity:** It can effectively distinguish H5/H7/H9 subtypes, and has no cross reaction with H1N1, H3N2, influenza B virus, Newcastle disease virus, infectious bursa of fabricius disease virus, avian infectious bronchitis virus, avian infectious laryngotracheitis virus, chicken Marek's disease virus, mycoplasma gallisepticum, salmonella, and chicken genome DNA.
- **Wide Applicability:** Can be paired with various fluorescent quantitative PCR instruments on the market, especially supporting Bioer Real-Time PCR instruments.
- **Good Stability:** The reagent kit adopts the form of lyophilization. After lyophilization, the active substances (such as enzymes) in the product will be protected at ambient temperature, and can be transported at room temperature, improving and extending the stability of the reagent, greatly reducing the problems of reagent performance degradation or failure caused by temperature changes.
- **Simple Operation and Short Time Consumption:** The reagent kit does not need to be prepared, and after re-dissolution, it only needs to be packaged in one step to add samples for testing, and the test results can be obtained within 1 hour.

Application case

Case 1 Specificity detection of avian influenza virus nucleic acid detection kit H1N1, H3N2, H5N1, H7N9, H9N2, influenza B virus, Newcastle disease virus, infectious bursa of fabricius disease virus, avian infectious bronchitis virus, avian infectious laryngotracheitis virus, chicken marek's disease virus, mycoplasma gallisepticum, salmonella, and chicken genomic DNA were detected with this kit, and the results showed that all samples were negative except H5N1, H7N9, and H9N2, This indicates that the reagent kit has no cross reaction with other viruses and has good specificity.

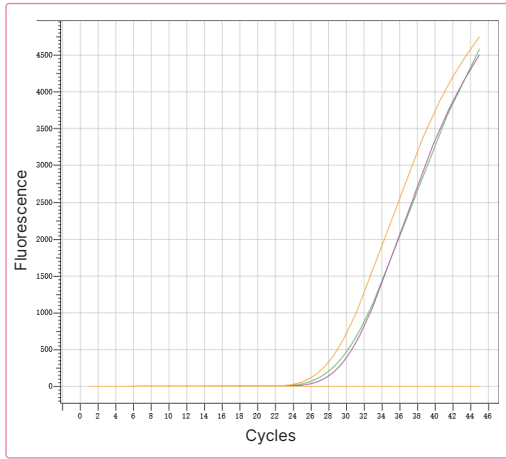


Figure 1. Amplification curve of the cross-validation experiment of the reagent kit

Table 1. Summary of cross-validation results for reagent kits

Sample	H5	H7	H9
H5N1	+	-	-
H7N9	-	+	-
H9N2	-	-	+
H1N1	-	-	-
H3N2	-	-	-
Influenza B Virus	-	-	-
Newcastle Disease Virus	-	-	-
Infectious Bursa of Fabricius Virus	-	-	-
Avian Infectious Bronchitis	-	-	-
Avian infectious Laryngotracheitis Virus	-	-	-
Chicken Marek's Disease Virus	-	-	-
Mycoplasma Gallisepticum	-	-	-
Salmonella	-	-	-
Chicken Genome DNA	-	-	-

Note: "+" represents a positive result, and "-" represents a negative result.

Case 2 10^4 copies/mL of avian influenza H5N1, H7N9, and H9N2 positive samples were repeat 10 times using the avian influenza virus H5/H7/H9 subtype Lyophilized nucleic acid detection kit (fluorescence PCR method). After statistical analysis, it was found that the co-efficient of variation (CV) of Ct values for each subtype detection result was less than 1%, indicating that the precision of the kit was good and the experimental results were reliable.

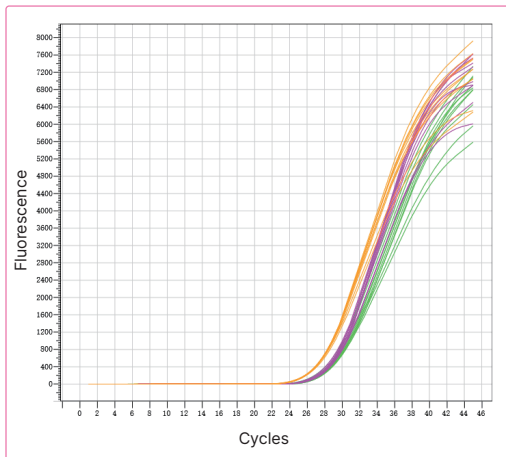


Figure 2. Amplification Curve of Repeatability Verification Experiment

Table 2. Summary of Repeatability Verification Results of the Kit

NO.	H5	H7	H9
1	29.37	29.96	28.18
2	29.4	29.76	28.07
3	29.61	29.87	28.16
4	29.11	29.72	28.19
5	29.32	29.58	28.11
6	29.52	29.71	28.05
7	28.91	29.59	28.12
8	28.75	29.42	28.06
9	29.52	29.89	28.35
10	29.15	29.59	28.07
CV	0.96%	0.56%	0.32%

Ordering Information

Cat#	Product Name	Package	Storage Condition
BSL76S1	Avian Influenza Virus H5/H7/H9 Subtype Lyophilized Nucleic Acid Detection Kit (Fluorescence PCR)	48T	Room Temperature



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