

## SHORT COMMUNICATION

# Comparison of Four Swab and Transport Media Combinations for the Detection of Respiratory Viruses

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### SUMMARY

**Background:** We compared four combinations of nasopharyngeal swabs and transport media for their ability to transfer and recover viruses under different storage conditions.

**Methods:** Each swab was immersed in culture supernatants of influenza A virus (IAV), respiratory syncytial virus, and adenovirus, placed in transport medium, and stored at -20°C, +4°C, +20 to 25°C, and +37°C for 5 days. On each day, virus culture and real-time PCR were performed for each virus.

**Results:** All samples under different storage conditions showed positive results up to 5 days using both virus culture and real-time PCR. Real-time PCR showed that samples stored at -20°C, 4°C, and 20 - 25°C were within two cycle thresholds (Cts) up to 5 days, but IAV at 37°C showed that viral titer decreased after 3 days.

**Conclusions:** Our results indicate that these swab and transport media maintained the stability of the above viruses for 5 days at room temperature, refrigerated, and frozen storage conditions.

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Supplementary Data

Table S1. Stability test for 5 days with four swabs and transport media under different storage conditions using virus culture techniques.

Viruses and host cell	Transport system	Storage condition	Viability results using virus culture technique					
			Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Influenza A virus MDCK cell	Copan	20 - 25°C	P	P	P	P	P	P
	Noble Bio	20 - 25°C	P	P	P	P	P	<u>WP</u>
	Asan	20 - 25°C	P	P	P	P	P	P
	SG medical	20 - 25°C	P	P	P	P	P	P
	Copan	4°C	P	P	P	P	P	P
	Noble Bio	4°C	P	P	P	P	P	P
	Asan	4°C	P	P	P	P	P	P
	SG medical	4°C	P	P	P	P	P	P
	Copan	-20°C	P	P	P	P	P	P
	Noble Bio	-20°C	P	P	P	P	P	P
	Asan	-20°C	P	P	P	P	P	P
	SG medical	-20°C	P	P	P	P	P	P
	Copan	37°C	P	P	P	P	<u>WP</u>	<u>WP</u>
	Noble Bio	37°C	P	P	P	P	<u>WP</u>	<u>WP</u>
	Asan	37°C	P	P	P	P	P	<u>WP</u>
	SG medical	37°C	P	P	P	P	P	<u>WP</u>
RSV HEp-2 cell	Copan	20 - 25°C	P	P	P	P	P	P
	Noble Bio	20 - 25°C	P	P	P	P	P	P
	Asan	20 - 25°C	P	P	P	P	P	P
	SG medical	20 - 25°C	P	P	P	P	P	P
	Copan	4°C	P	P	P	P	P	P
	Noble Bio	4°C	P	P	P	P	P	P
	Asan	4°C	P	P	P	P	P	P
	SG medical	4°C	P	P	P	P	P	P
	Copan	-20°C	P	P	P	P	P	P
	Noble Bio	-20°C	P	P	P	P	P	P
	Asan	-20°C	P	P	P	P	P	P
	SG medical	-20°C	P	P	P	P	P	P
	Copan	37°C	P	P	P	P	P	P
	Noble Bio	37°C	P	P	P	P	P	P
	Asan	37°C	P	P	P	P	P	P
	SG medical	37°C	P	P	P	P	P	P
Adenovirus HEp-2 cell	Copan	20 - 25°C	P	P	P	P	P	P
	Noble Bio	20 - 25°C	P	P	P	P	P	P
	Asan	20 - 25°C	P	P	P	P	P	P
	SG medical	20 - 25°C	P	P	P	P	P	P
	Copan	4°C	P	P	P	P	P	P
	Noble Bio	4°C	P	P	P	P	P	P
	Asan	4°C	P	P	P	P	P	P
	SG medical	4°C	P	P	P	P	P	P

**Table S1. Stability test for 5 days with four swabs and transport media under different storage conditions using virus culture techniques (continued).**

Viruses and host cell	Transport system	Storage condition	Viability results using virus culture technique					
			Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Adenovirus HEp-2 cell	Copan	-20°C	P	P	P	P	P	P
	Noble Bio	-20°C	P	P	P	P	P	P
	Asan	-20°C	P	P	P	P	P	P
	SG medical	-20°C	P	P	P	P	P	P
	Copan	37°C	P	P	P	P	P	P
	Noble Bio	37°C	P	P	P	P	P	P
	Asan	37°C	P	P	P	P	P	P
	SG medical	37°C	P	P	P	P	P	P

Abbreviations: MDCK - Madin-Darby Canine Kidney, RSV - respiratory syncytial virus, P - positive, WP - weakly positive.