



MDx-Chex[®] for RP: A Full-Process Respiratory Quality Control for High-Plex Molecular Testing

24 Targets · Intact Organisms · Room Temperature Stable · Patient-Like Matrix

MDX-CHEX MDx-Chex[®] for RP is for Research Use Only (RUO). Not for use in diagnostic procedures.

Introduction

Respiratory molecular panels have become the standard for syndromic respiratory testing, detecting viruses and bacteria from a single sample across dozens of targets simultaneously. The quality controls supporting these panels have not kept pace with that complexity.

Most laboratories running high-plex respiratory panels rely on controls that can't verify them fully. External quality controls generally fall into two categories, and neither fully exercises the workflow. Synthetic nucleic acid controls use engineered sequences that bypass lysis and extraction entirely, entering the workflow at amplification; they cannot detect failures at the most upstream, and most consequential, steps of the analytical process. Pellet- or swab-based controls contain intact organisms but require reconstitution, often need frozen storage, and don't process the way a patient sample does. Cold-chain requirements add logistics complexity and user error risk.

CLIA, CAP, CLSI (MM17), and ASM all recommend full-process external quality controls that challenge every step from lysis through detection. MDx-Chex for RP meets that standard.

Three Advantages

INTACT ORGANISMS

MDx-Chex for RP challenges every step a patient sample would, lysis through detection. Synthetic controls only verify amplification; if lysis fails, they never know it.

ROOM TEMPERATURE STABLE (2 °C – 25 °C)

No freeze-thaw required. Laboratories store the control at the bench and move straight into testing, without a separate thaw or prep step.

PATIENT-LIKE MATRIX

Stabilized human erythrocytes and lung epithelial cells create a matrix that behaves like a real respiratory specimen, including biological inhibitors that synthetic and pellet-based controls don't replicate.

Results

FEATURE COMPARISON: MDX-CHEX FOR RP VS. COMPETITORS

Attribute	MDx-Chex for RP	Competitor A	Competitor B
Intact Inactivated Organisms	✓		✓
Patient-Like Cellular Matrix	✓		
Full Lysis-to-Detection Verification	✓		⊙
Room Temperature Stable (2 °C – 25 °C)	✓		⊙
No Freeze-Thaw Required	✓		⊙
No Resuspension / Reconstitution	✓	⊙	
Ready-to-Use (pipette like a patient sample)	✓		
24-Plex Respiratory Target Coverage	✓	⊙	⊙
	4/4	0/8	1/8

Figure 1. MDx-Chex for RP compared against two commonly used alternatives in the high-plex respiratory molecular control market, based on publicly available product literature. ✓ Yes ⊙ Partial / Varies by product blank = No. Score reflects count of full “Yes” attributes out of 8.

FEATURE COMPARISON: MDX-CHEX FOR RP VS. COMPETITORS

Attribute	FILMARRAY® RP2.1	SPOTFIRE® R/ST	Type
Adenovirus	10/10, 10/10	10/10, 10/10	Viral
Coronavirus (Seasonal)	10/10, 10/10	10/10, 10/10	Viral
SARS-CoV-2	10/10, 10/10	7/7 ¹ , 10/10	Viral
Human Metapneumovirus	10/10, 10/10	10/10, 10/10	Viral
Human Rhinovirus/Enterovirus	10/10, 10/10	10/10, 10/10	Viral
Influenza A H1-2009	10/10, 10/10	10/10, 10/10	Viral
Influenza A H3	10/10, 10/10	10/10, 10/10	Viral
Influenza B	10/10, 10/10	10/10, 10/10	Viral
Parainfluenza Virus (1,2,3,4)	10/10, 10/10	10/10, 10/10	Viral
Respiratory Syncytial Virus	10/10, 10/10	10/10, 10/10	Viral
Bordetella parapertussis	10/10, 10/10	7/7 ¹ , 10/10	Bacterial
<i>Bordetella pertussis</i>	10/10, 10/10	7/7 ¹ , 10/10	Bacterial
<i>Chlamydia pneumoniae</i>	10/10, 10/10	10/10, 10/10	Bacterial
<i>Mycoplasma pneumoniae</i>	10/10, 10/10	10/10, 10/10	Bacterial
<i>Streptococcus dysgalactiae</i> (Grp C/G)	N/A	7/7 ¹ , 10/10	Bacterial
<i>Streptococcus pyogenes</i> (Grp A)	N/A	7/7 ¹ , 10/10	Bacterial

Figure 2. Detection results from the room temperature (RT) storage condition of the stability study, across 10 runs on both the BIOFIRE® FILMARRAY® RP2.1 and BIOFIRE® SPOTFIRE® R/ST platforms. Each cell shows expected results achieved out of total runs for both positive and negative controls. ¹7/7 reflects a BIOFIRE® SPOTFIRE® R/ST configuration difference: these targets were not included in runs 1–3 for that lot. All applicable runs detected as expected; this is a platform panel difference, not a control performance issue. N/A: Streptococcus targets are not included in the BIOFIRE® FILMARRAY® RP2.1 panel.

Conclusion

MDx-Chex for RP gives laboratories a full-process respiratory control that verifies lysis through detection, at room temperature, in a single format. It helps laboratories meet CLIA, CAP, CLSI, and ASM recommendations for full-process external quality control.

Ordering and Support

Catalog No.	250101
Configuration	5 Positive + 5 Negative Controls (300 µL/vial, single-use)
Storage	2 °C – 25 °C
Customer Service	800-228-6090 custserv@streck.com
Technical Support	800-843-0912 technicalservices@streck.com

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