Certificate of Analysis

Ensuring Integrity in Every Cell Line

Product	MM.1S	**Passage Number**	3
Human	Human	**Cell count per mL**	3.33 million
Cytion™ Number	305304	**Volume per ampule**	1.5
Lot Number	6223919824	**Freeze Date**	21.10.2026
Product Format	cryovial	**Freeze medium**	Freeze medium containing FBS
Storage Conditions	Below -150°C	**Expiration Date**	Not applicable
Identity match	> 80%		

At Cytion, we ensure the quality and reliability of our cell lines through in-house and third-party testing, including:

1. STR Profiling: To authenticate cell line identity.
2. Virus Testing: For species-specific viruses where possible.
3. Mycoplasma Testing: To prevent contamination.
4. Interspecies Contamination Testing: To ensure purity.
5. Bacteria and Fungi Testing: To ensure cells are free from microbial contaminants.

TEST OVERVIEW

Test	Methodology	Acceptance Criteria	Outcome
Post-Freeze Viability	Viability assessment using Vi-CELL BLU by Beckman Coulter (analyzing 100 images per sample, 200 µl cell suspension per test)	> 70% post-thaw cell viability	96.5%
Recovery	Culture in the appropriate growth medium, microscopic evaluation	> 80% confluence within the expected recovery period	A T25 culture flask seeded at a density of 4.3 x 10^6 viable cells per flask typically reaches approximately 16 x 10^6 viable cells per flask within 6 days.
Growth Properties	Observation of cell culture behaviour to determine if cells are adherent, suspension, or semi-adherent	Cells exhibit expected growth properties consistent with the cell line's characteristics	Adherent / Suspension
Sterility Testing	Direct inoculation on 8 media, 10-day incubation; microbial ID by MALDI-TOF MS – anaerobic culture	No bacterial or fungal growth after 10 days of incubation	Sterility confirmed
Mycoplasma Testing	PCR-based detection assay with specific primers targeting Mycoplasma DNA	No detectable Mycoplasma contamination confirmed by PCR	Pass
STR Profiling	Multiplex PCR of species-specific STR loci with capillary electrophoresis, performed by IDEXX BioAnalytics	≥ 80 % match to the reference STR profile	Identity confirmed
Interspecies contamination testing	Species-specific PCR panel, performed by IDEXX BioAnalytics	DNA of the expected species only, no foreign species detected	Pass
Species-specific pathogen testing	PCR panel for species-specific pathogens, performed by IDEXX BioAnalytics	All tested agents negative	Pass

AUTHENTICATION — INTERSPECIES CONTAMINATION TESTING

Species	Status
Mouse	-
Rat	-
Human	+
Chinese hamster	-
African green monkey	-

AUTHENTICATION — STR PROFILING

Marker	Alleles
AMEL	X
CSF1PO	9, 14
D13S317	13
D16S539	12
D18S51	11, 16, 17
D21S11	28, 30
D3S1358	16, 17
D5S818	8, 12
D7S820	10, 11
D8S1179	14
FGA	20, 24
Penta_D	2.2, 9
Penta_E	13, 15
TH01	7, 8
TPOX	8
vWA	15, 17
Identity match	> 80%

SPECIES-SPECIFIC PATHOGEN TESTING

Pathogen	Result
Hepatitis A	-
Hepatitis B	-
Hepatitis C	-
HIV1	-
HIV2	-
HTLV 1	-
HTLV 2	-
Mycoplasma sp.	-
Bacterial growth	-
Fungal growth	-

Third-Party Certified Quality Assurance

Since 2023, IDEXX has conducted STR profiling, species-specific pathogen testing, and species contamination analysis to ensure the authenticity, purity, and safety of our cell lines.

The information provided is believed to be accurate, but both the information and product are offered without warranty for any applications beyond those specified. This certificate confirms that the material has been tested and is pure to the best of our knowledge.

This product is intended solely for laboratory research use and is not for use in humans, animals, or diagnostics. Proper Biosafety Level practices are required.

Cytion products may not be resold, modified for resale, or used commercially without prior written consent from Cytion.

Manufactured in Germany under our ISO 9001:2015 certified Quality Management System, ensuring high standards of quality and reliability.

Qualified personnel have validated the test results of this Certificate of Analysis and attest with their signature that the tests were conducted as reflected in the results presented here.

F. Münster 13.11.2026

Authorised signature & date

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