

Technical Data Sheet:

Quantitative Synthetic Influenza B Virus (Victoria Lineage) RNA

ATCC [®] Number	VR-3385SD™
Product Description	Quantitative Synthetic Influenza B Virus RNA is a synthetically derived preparation that can be used for assay development, verification, and validation as well as monitoring of day-to-day test variation and lot-to-lot performance of molecular-based assays. The quantitative format allows for the generation of a standard curve for quantitative PCR (qPCR) to determine viral load.
Genetic Target	The synthetic RNA preparation includes two constructs. One construct includes the full genes for the HA and NP regions. The other construct includes the full genes for the NA, M1/M2, and NEP/NS1 regions. This product is based on the B/Brisbane/60/2008 (Victoria lineage) influenza virus sequence with few modifications to accommodate manufacturing and product compatibility with diagnostically relevant assays.

Publication	Assay Target	Oligo	Sequence (5' to 3')	Number of mismatches with ATCC [®] VR- 3385SD™ based on <i>in silico</i> analysis
World Health Organization. WHO information for the molecular detection of influenza viruses. Publish date: February 2021.	НА	Forward	AAATACGGTGGATTAAACAAAAGCAA	0
		Reverse	CCAGCAATAGCTCCGAAGAAA	0
		Probe	CACCCATATTGGGCAATTTCCTATGGC	0
World Health Organization. WHO information for the molecular detection of influenza viruses. Publish date: February 2021.	НА	Forward	ACATACCCTCGGCAAGAGTTTC	1
		Reverse	TGCTGTTTTGTTGTCGTTTT	0

Forward					
information for the molecular detection of influenza viruses. Publish date: February 2021. World Health Organization. WHO information for the molecular detection of influenza viruses. Publish date: February 2021. HA Reverse ACAGCCCAAGCCTGCTAACC 0 Froward ACCCTACARMITGGAACYTCAGG 0 Reverse ACAGCCCAAGCCATGTTG 0 ACCCTACARMITGGAACYTCAGG 0 ACCCTACARMITGGAACYTCAGG 0 Reverse ACAGCCCAAGCCATGTTG 0 ACCCTACARMITGGAACYTCAGG 0 ACCCTACACAGCCATTGTTG 0 ACCCTACACAATTGCTTGGAACATTGGAACTTTGGAACATTGGAACTTTGGAACATTGGAACTTTGGAACATTGGAACTTTGGAACATTG	information for the molecular detection of influenza viruses.	НА	Forward	CCTGTTACATCTGGGTGCTTTCCTATAATG	0
Probe TTAGACAGCTGCCTAACC 0			Reverse	GTTGATARCCTGATATGTTCGTATCCTCKG	0
World Health Organization, WHO information for the molecular detection of influenza viruses, Publish date: February 2021. Probe ATCCGTTTCCATTGGTAA			Probe	TTAGACAGCTGCCTAACC	0
information for the molecular detection of influenza viruses. Publish date: February 2021. Leong NKC, et al. A six-plex droplet digital RT-PCR assay for easans and influenza virus syping, such principal digital RT-PCR assay for easans and influenza virus syping, such principal digital RT-PCR assay for easans and influenza virus syping, such principal digital RT-PCR assay for easans and influenza virus syping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, 2020. PubMed: 32519796 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-lime polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 32693928 Forward TCTTCGCAACAATGGCTTGGC 0 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-lime polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 28933928 Forward TCTTCGCAACAATGGCTTGGC 0 TCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGC 0 TCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGC 0 TCTTCTTCTTCTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGC 0 TCTTCTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGC 0 TCTTCTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGC 0 TCTTCTTCTTCTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGCC 0 TCTTCTTCTTCTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGCC 0 TCTTCTTCTTCTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGCC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGCC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGGC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGGC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGGC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGGC 0 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCTTCTTCTTGYACAAATGTATGG 1 TCTTCTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTT	World Health Organia-tion 14/10	НА	Forward	ACCCTACARAMTTGGAACYTCAGG	0
Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(a): 72-07-729, 2020. PubMed: 32319798 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase brius using real-time polymerase B virus using real-time quantitative PCRJ. Clim Mortobiol 39(1): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time quantitative PCRJ. Clim Mortobiol 39(1): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCRJ. Clim Mortobiol 39(1): 1436770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe TGCAGGATTGCAGACATGGCTCGAAGAAA Probe TGCAGGATTGCAGACATGGCT 0 Proward AAATACGGTGGATTAAATAAAAGCAA 1 AAATACGGTGGATTAAATAAAAGCAA 1 Reverse CCAGGAATTGCAGACATTGG 0 CCAGGGATTGCAGACATTGA 0 Probe TGCAGGAGTTTCCATATTGTAAAGAG 0 TGTTTGTGTCTCTGTGCAGCACATTGA 0 TGTTTGTTCTTCTGTYACAAATGTATGAGT 0 AAATACGGTGGATTAAATAAAAGCAA 1 TGTTTTCTTCTTCTGYACAAATGTATGGC 0 TGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	information for the molecular detection of influenza viruses.		Reverse	ACAGCCCAAGCCATTGTTG	0
droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729. 2020. PubMed: 32519796 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 21136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Forward CCAGCATATTGGACAATTGTAGG 0 Forward AAATACGGTGGATTAATAAAAGCAA 1 Reverse CCAGCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 TIGTTAGGCCCTCTGTGGCAGCA 0 Probe TGTAGGCCCTCTGTGGCAGCA 0 TGTTTCTTCTTCTTCTTCTTTCTTTCTTTCTTTCTTTC	Publish date: February 2021.		Probe	ATCCGTTTCCATTGGTAA	0
seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, 2020. PubMed: 32519796 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435. 2016. PubMed: 2893928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435. 2016. PubMed: 2893928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435. 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 HA Reverse CTTCTTCTTCTGYACAAATGTATGG TCTTCGCAACAATGGCTTGGGC 0 CTTCTTCTTCTGYACAAATGTATGG 1 Reverse CTTCTTCTTCTGYACAAATGTATGG 0 Proward AAATACGGTGGATTAAATAAAAGCAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 Probe CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 Reverse CCAGCAATAGCTCCGAAGAAA 0 Probe TTGTTAGGCCCTCTGTGGCRAGCA 0 Reverse ACAGGTGTTGCATATTGTAAAGAG 0 Reverse ACAGGTGTTGCATATTTGTAAAGAG 0 Reverse ACAGGTGTTCCAYGTTCCACTACACAATGGCTTCGATACAATGGCTTCGATACAATGGCTTCGATACAATGGCTTCGATACAATGGCTTCGATACAATGGCTTCCACTACACAATGGCTTCCATACACAATGGCTTCCATACACAATGGCTTCCATACACAATGGCTTCCACTACACACAATGGCTTCCACTACACACAATGGCTTCCACTACACACAC			Forward	AGGRGAAGACCAAATTACYGTTTG	0
Respir Viruses 14(6): 720-729, 2020. PubMed: 32519796 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clim Microbiol 39(1): 196-200, 2001. PubMed: 11136770 HA Reverse CTTCTTCTTCTGYACAAATGTATGG 1 Reverse CTTCTTCTTCTGYACAAATGTATGG 1 Reverse CTTCTTCTTCTGYACAAATGTATGG 1 Reverse CTTCTTCTTCTGYACAAATGTATGG 1 Reverse CTCCAGCAATAGCTCCGAAGAAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 Probe CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 CACCCATATTGGGCAATTTCCTATGGC 0 Termand Reverse CCAGGGATTGCAGACATTGA 0 Reverse ACAGGTGTTGCAGACAATGGTTCGATGA 0 Reverse ACAGGTGTTGCAGACAATGGCA 0 Reverse ACAGGTGTTGCAGACAATGGCA 1 Reverse ACAGGTGTTGCAGACATTGA 0 Reverse ACAGGTGTTGCATATTGTAAAGAG 0 Reverse ACAGGGTTTCCAYGTTCCACTACTTCCACTACTTCCACTACTTCCACTACTAC	seasonal influenza virus typing, subtyping, and lineage	НА	Reverse	CRTTRGCAGATGAGGTGAACTT	0
specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(8): 1425-1435, 2016. PubMed: 2993928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol (1646-1651, 2012. PubMed: 22930514 NP Reverse CCACCATATTGGCAACAATGGCTTGGGC 0 CTTCTTCTTCTGYACAAATGTATGG 1 TCTTCGCAACAATGGCTTGGGC 0 CTTCTTCTTCTTGYACAAATGTATGG 1 AAATACGGTGGATTAAATAAAAGCAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 Probe CACCCATATTGGCCAACAATGGCAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 CACCCATATTGGCCAACAATGGCAA 1 Reverse CAACCAATGGCTTGGGC 0 CACCCATATTGGCCAACAATGGCAATGGCAAATGGCAAATGGCAAATGGCAAATGGCAAATGGCAAATGGCAAATGGCAAATGGCAATGGCAAAATGGCAAAATGGCAAACAATGCCAAACAATGCCAAACAATGCCAAACAAA	Respir Viruses 14(6): 720-729,		Probe	YARCGAGRYCCAAATGGHAARSCTCTATG	0
chain reaction with melting curve analysis. Arch Virol 161(8): 1425-1435, 2016. PubMed: 26923928 Tewawong N, et al. Lineage-specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(8): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe Troward AAATACGGTGGATTAAATAAAAGCAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 CCAGCAATAGCTCCGAAGAAA 0 CCAGCGATTGCGCAACATTGCC 0 CCACCCATATTGGGCAATTTCCTATGGC 0 CCAGCGAATAGCTCCGAAGAAA 0 Probe CACCCCATATTGGGCAATTTCCTATGGC 0 Troward CCAGGGATTGCAGACATTGA 0 Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 Tromard AAGACCTRAGAGTTTGCAATTTGTAAAGAG 0 Troward AGACCTRAGAGTTTCCTATGGC 0 Tromard AGACCTRAGAGTTTTCCTATGGC 0 Tromard AGACCTRAGAGTTTTGCCAACAATGGCTCCATTC 1 CCAGGGATTGCCAATATTGTAAAGAG 0 Tromard AGACCTRAGAGTTTTCCTAGCA 0 Tromard AGACCTRAGAGTTTTCCAGCA 0 Tromard AGACCTRAGAGTTTTCCAGCA 0 Tromard AGACCTRAGAGTTTCCAGCA 0 Tromard AGACCTRAGAGTTTTCCAGCA 0 Tromard AGACCTRAGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-	НА	Forward	TCTTCGCAACAATGGCTTGGGC	0
specific detection of influenza B virus using real-time polymerase chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR, J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 HA Reverse Forward Forward AAATACGGTGGATTAAATAAAAGCAA 1 Reverse CCAGCAATAGCTCCGAAGAAA 0 Reverse CCAGCAATAGCTCCGAAGAAA 0 CCAGCAATAGCTCCGAAGAAA 0 Reverse CCAGCAATAGCTCCGAAGAAA 0 Reverse CCAGCAATAGCTCCGAAGAAA 0 CCAGCGATTGCAGACATTGCC 0 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 NP Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 Forward CCAGGGATTGCAGACATTGA 0 Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 Forward AAGACCTRAGAGTTTGCTGCAYT 0 AAGACCTRAGAGTTTTCTCTCGCAYT 0 AAGACCTRAGAGTTTTCTCTCGCAYT 0 AAGACCTRAGAGTTTTCTCTCGCAYT 0 AAGACCTRAGAGTTTTCTCACCAYT 0 TGCAGAGGTTTCCAYTCCACCA 0 Probe TGCAAGGGTTTCCAYGTTCCAGCA 0 TGCAAGGGTTTCCAYGTTCCAGCA 0 CCAGCAATAGCTCCGAAGAAA 1 AAATACGGTGGATTAAATAAAAAGCAA 1 CCAGCGATTGCAGACATTGCC 0 CCAGCCATATTGGCCATATTGTAAAGAGA 0 Forward AAGACCTRAGAGTTTTGTCAGCAT 0 AAGACCTRAGAGTTTTCCTACCACT 1 AAGACCTRAGAGTTTTCCCACCATTC 0 TGCAAGGGTTTCCAYGTTCCAGCA 0 CCAGCAATAGCTCCAAACCAACCAAC 0 CCAGCCAATAGCTCCCAAACCAACCAACCAACCAACCAAC			Reverse	CTTCTTCTGYACAAATGTATGG	1
chain reaction with melting curve analysis. Arch Virol 161(6): 1425-1435, 2016. PubMed: 26923928 Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe CACCCATATTGGCCATATTGTAAAGAG Reverse CCAGGATTGCAGACATTGA 0 Forward CCAGGGATTGCAGACATTGA 0 Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 TGTTTAGGCCCTCTGTGGCRAGCA 0 Vang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, ACAGATTGACAAACAACAAC Reverse CTTCTTCTTCTGYACAAATGTATGG 1 AAATACGGTGGATTAAATAAAAGCAA 1 AAATACGGTGGATTAAATAAAAGCAA 1 CCAGCAATAGCTCCGAAGAAA 0 CCAGCCATATTGGACAATTGGC 0 Forward ACAGGTGTTGCCATATTGTAAAGAG 0 Forward AAGACCTRAGAGTTTTGTCTGCAYT 0 ACAGACCTRAGAGTTTTGTCTGCAYT 0 TGCAAGGGTTTCCAYGTTCCAGCA 0 CACCCATATTGTAAAGAGA 1 AAATACGGTGAATAAAAAAAAGCAAA 1 AAATACGGTGAATAAAAAAAAAAAAAAAAAAAAAAAAA	specific detection of influenza B	НА	Forward	TCTTCGCAACAATGGCTTGGGC	0
Van Elden LJ, et al. Simultaneous detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe TGCAGGGATTGCAGACATTGA CCAGGGATTGCAGACATTGA O Forward CCAGGGATTGCAGACATTGA O Reverse ACAGGTGTTGCCATATTGTAAAGAG Probe TTGTTAGGCCCTCTGTGGCRAGCA O Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, ACACACATGGACAACCAACCAACCAACCAACCAACCAACC	chain reaction with melting curve analysis. Arch Virol 161(6): 1425-		Reverse	CTTCTTCTGYACAAATGTATGG	1
and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-200, 2001. PubMed: 11136770 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza Other Respir Viruses 14(6): 720-729, Market Six Policy Control of the pandemic influenza Other Respir Viruses 14(6): 720-729, AAAAAATAACAACAACAACAACAACAACAACAACAACAAC		НА	Forward	AAATACGGTGGATTAAATAAAAGCAA	1
200, 2001. PubMed: 11136770 Probe CACCCATATTGGGCAATTTCCTATGGC 0 Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe TTGTTAGGCCCTCTGTGGCRAGCA 0 Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, PubMed: 20304017 Probe CACCCATATTGGGCAATTGA 0 Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 AAGACCTRAGAGTTTTGTCTGCAYT 0 AAGACCTRAGAGTTTTGCCACTATTC 0 Probe TGCAAGGGTTTCCAYGTTCCAGCA 0 Probe TGCAAGGGTTTCCAYGTTCCACCAACCAAC 0 Reverse CAAATTCTTTCCCACCRAACCAAC 0	detection of influenza viruses A and B using real-time quantitative PCR. J Clin Microbiol 39(1): 196-		Reverse	CCAGCAATAGCTCCGAAGAAA	0
Lee HK, et al. A universal influenza A and B duplex real-time RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe TTGTTAGGCCCTCTGTGGCRAGCA 0 Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729,			Probe	CACCCATATTGGGCAATTTCCTATGGC	0
RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012. PubMed: 22930514 Probe TTGTTAGGCCCTCTGTGGCRAGCA 0 Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, Reverse ACAGGTGTTGCCATATTGTAAAGAG 0 AAGACCTRAGAGTTTTGTCTGCAYT 0 ATCAGAGCTGCYCCCATTC 0 TGCAAGGGTTTCCAYGTTCCAGCA 0 Reverse CAAATTCTTTCCCACCRAACCAAC 0 ACAGATTCTTTCCCACCRAACCAAC 0 ACAGATTCTTTCCCACCRAACCAAC 0 ACAGATTCTTTCCCACCRAACCAACCAACCAACCAACCAACCAA		NP	Forward	CCAGGGATTGCAGACATTGA	0
Yang Y, et al. Simultaneous typing and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, Probe TGCAAGACTGCYCCCATTC 0 AAGACACACACACACACACACACACACACACACACACA	RT-PCR assay. J Med Virol 84(10): 1646-1651, 2012.		Reverse	ACAGGTGTTGCCATATTGTAAAGAG	0
and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, ACAACATTCCACAACCAACCAACCAACCAACCAACCAA			Probe	TTGTTAGGCCCTCTGTGGCRAGCA	0
pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44, 2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, NP Reverse ATCAGAGCTGCYCCCATTC 0 GAGACACAATTCCAYGTTCCAGCA 0 Forward GAGACACAATTGCCTACYTGCTT 0 Reverse CAAATTCTTTCCCACCRAACCAAC 0 Probe ACAACATCCACAACCAACCAACCAACCAACCAACCAACC	and HA/NA subtyping of influenza A and B viruses including the pandemic influenza A/H1N1 2009 by multiplex real-time RT-PCR. J Virol Methods 167(1): 37-44,	NP	Forward	AAGACCTRAGAGTTTTGTCTGCAYT	0
2010. PubMed: 20304017 Leong NKC, et al. A six-plex droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729, Probe IGCAAGGGTTTCCAYGTTCCAGCA GAGACACAATTGCCTACYTGCTT 0 Reverse CAAATTCTTTCCCACCRAACCAACCAACCAACCAACCAAC			Reverse	ATCAGAGCTGCYCCCATTC	0
droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729,			Probe	TGCAAGGGTTTCCAYGTTCCAGCA	0
subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729,	droplet digital RT-PCR assay for seasonal influenza virus typing, subtyping, and lineage determination. Influenza Other Respir Viruses 14(6): 720-729,	M	Forward	GAGACACAATTGCCTACYTGCTT	0
			Reverse	CAAATTCTTTCCCACCRAACCAAC	0
			Probe	AGAAGATGGAGAAGGCAAAGCAGAACTAGC	0

Suwannakarn K, et al. Typing (A/B) and subtyping (H1/H3/H5) of influenza A viruses by multiplex real-time RT-PCR assays. J Virol Methods 152(1-2): 25-31, 2008. PubMed: 18598722	М	Forward	CTCTGTGCTTTRTGCGARAAAC	0
		Reverse	CCTTCYCCATTCTTTTGACTTGC	0
		Probe	TCAG+CA+AT+G+AA+CACAGCAA	0
Ward CL, et al. Design and performance testing of quantitative real time PCR assays for influenza A and B viral load measurement. J Clin Virol 29(3): 179-188, 2004. PubMed: 14962787	М	Forward	GAGACACAATTGCCTACCTGCTT	0
		Reverse	TTCTTTCCCACCGAACCAAC	1
		Probe	AGAAGATGGAGAAGCAAAGCAGAACTAGC	0
World Health Organization. WHO information for the molecular detection of influenza viruses. Publish date: February 2021.	NA	Forward	GCACTCCTAATTAGCCCTCATAGA	0
		Reverse	TAAGGACAATTGTTCAAAC	0
Centers for Disease Control and Prevention (U.S.); National Center for Immunization and Respiratory Diseases (U.S.). Influenza Division. Virology Surveillance and Diagnosis Branch. Genomics and Diagnostics Team. Research Use Only CDC Influenza SARS-CoV-2 (Flu SC2) Multiplex Assay Real-Time RT-PCR Primers and Probes. Publish date: July 14, 2020.	NS1	Forward	TCCTCAAYTCACTCTTCGAGCG	0
		Reverse	CGGTGCTCTTGACCAAATTGG	0
		Probe	CCAATTCGAGCAGCTGAAACTGCGGTG	0
World Health Organization. WHO	NS1	Forward	GGAGCAACCAATGCCAC	0
information for the molecular detection of influenza viruses. Publish date: February 2021.		Reverse	GTKTAGGCGGTCTTGACCAG	0
		Probe	ATAAACTTYGAAGCAGGAAT	0
Selvaraju SB, Selvarangan R. Evaluation of three influenza A and B real-time reverse transcription-PCR assays and a new 2009 H1N1 assay for detection of influenza viruses. J Clin Microbiol 48(11): 3870-3875, 2010. PubMed: 20844230	NS1	Forward	TCCTCAACTCACTCTTCGAGCG	0
		Reverse	CGGTGCTCTTGACCAAATTGG	0
		Probe	CCAATTCGAGCAGCTGAAACTGCGGTG	0

© 2024 American Type Culture Collection. The ATCC trademark and trade name, and any other trademarks listed in this publication are owned by the American Type Culture Collection unless indicated otherwise

These products are for laboratory use only. Not for human or diagnostic use. ATCC products may not be resold, modified for resale, used to provide commercial services, or to manufacture commercial products without prior ATCC written approval. The information provided in this document was put together using our best efforts and is for reference only. The recipient testing laboratory is responsible for generating validation or verification data as applicable to establish performance characteristics as required by the testing laboratory's policies, applicable regulations, and quality system standards.