Oligonucleotides used in the quadriplex real time PCR *emm* typing assays.

Reference: Velusamy et al. (2021). Sequential Quadriplex Real-Time PCR for Identifying 20 Common emm Types of Group A Streptococcus. Journal of Clinical Microbiology 59 (1): e01764-20. doi: 10.1128/JCM.01764-20. Print 2020 Dec 17.

Name	Oligonucleotide Sequence (5' – 3')	Optimal Concentration (nM)
Emm1-F	GTGATGGTARTCCTAGGRAAGTT	400
Emm1-P	FAM/TRCGGGA<BHQ1dT>TGTTTGCTGCAAGADR/Spc6	100
Emm1-R	CATTGCATTCTCTAATCTCGCTTT	400
Emm2-F	CAGTTAAGGCGAACAGTAAGAACCC	200
Emm2-P	Cy5/AAATTAAG<BHQ2dT>GAAGCAGAATTACATGACAAA/Spc6	200
Emm2-R	GCTCTTCTTCAACTTTATCTAATTTCTCGAATA	200
Emm3-F	GCAGACAGTAAAGGCAGATG	300
Emm3-P	ROX/TRGGAGTGT<BHQ2dT>AATGVAGAGTTTYCTAGRCA/Spc6	300
Emm3-R	CCTGATHTAACAAGTTCTCAGTTTC	300
Emm4-F	CTGRTTCAGCGYGGAACT	300
Emm4-P	Cy5/CTRAARAA<BHQ2dT>ATAACGYGTTASTTVASGAAAATGAGG/Spc6	200
Emm4-R	TYCACGTTCTACCTTGARC	300
Emm6-F	TATTCGCTTAGAAAATTAAAAACAGG	300
Emm6-P	Cy5/TGAAGTTAG<BHQ2dT>GCAAGAGYGTTTYCTRGGG/Spc6	100
Emm6-R	TGTTAASYTGTCATTATTAGCTT	300
Emm11-F	GGCTTTGCAAAYCAAACAGAAG	300
Emm11-P	HEX/TYCTAAAGS<BHQ1dT>AMAAACGTGAKCGCA/Spc6	300
Emm11-R	TTCATCCCATAGCGAATTATATAGG	300
Emm12-F	AGATCATAGTGATTTAGTCGCAGAA	300
Emm12-P	ROX/TTTGVAAGAC<BHQ2dT>GAAACRGCDTTCAG/Spc6	300
Emm12-R	ATAGTATTGCTGAAGGTAGDDTT	300
Emm28-F	GRCTTYTGCTAATGGARCTGRT	400
Emm28-P	FAM/AGYTGM<BHQ1dT>GYATACAACACATTGCTTACTG/Spc6	100
Emm28-R	ACTCATCWCYGAGTTTCTCATGTT	400
Emm49/151-F*	TGCGGAGAATAACGTGTMTA	400
Emm49/151-P	HEX/CGTATAGY<BHQ1dT>CTTTTTCTCTTCTTGCAACGC/Spc6	300
Emm49/151-R	CCTATTCTTTCTAGATATTCTCCGT	400
Emm59-F	CTTTGCAAACCAAACAGAAGTTAAG	200
Emm59-P	FAM/AAATACGA<BHQ1dT>GYATTGACTAATGAGAATAAGTCT/Spc6	100
Emm59-R	TAATTTAAATAGTTATCTCTCTCTCTTCTAA	200
Emm75-F	TATGAAGCAYRATACAAAGCATGG	300
Emm75-P	FAM/AATTA<BHQ1dT>AGAARGACCTTAGATAAGTTTAATAC/Spc6	100
Emm75-R	CTAATCTCGTAGTCTTACCTTGCTCA	300
Emm76-F	TGCAAACCAAACAGAAGTTAAGG	300
Emm76-P	ROX/TGASCTACAGGC<BHQ2dT>GAACATGATAAGYT/Spc6	300
Emm76-R	GTTCAGYCAATAGCTCMTYAT	300
Emm77-F	TGCAAACCAAACAGAAGTTARGG	300
Emm77-P	ROX/AGTGATGCA<BHQ2dT>CTGAACCTACAGAAACCC/Spc6	200
Emm77-R	AAGGTCTGTAATGCGGTTATGT	300
Emm81-F	TGCAAACCAAACAGAAGTTAAGG	300
Emm81-P	HEX/TGCGGG<BHQ1dT>YCAGAAGARAATGTACYG/Spc6	300
Emm81-R	TTSAAGTTTGGCTATGTATKTCCG	300
Emm82-F	ATCACTGAGGCAGGTGTATCTA	300
Emm82-P	Cy5/TGGAAGAG<BHQ2dT>ARGTTTGATGCAGAGCA/Spc6	300
Emm82-R	TTTCAAGCTCGTTTGCTCTATTC	300
Emm83-F	CCAGACAGAAGTTAAGGCTGATAAC	400
Emm83-P	Cy5/CAATGCAG<BHQ2dT>AACACAAGRGSRCRC/Spc6	200
Emm83-R	TCCATTTCATGTAACAAATTCTGAAGC	400
Emm87-F	CYAGAGAAGTARCCARCGAA	200

Emm87-P	FAM/TTGGYTGC<BHQ1dT>TCARTGYGGAAGAAA/Spc6	200
Emm87-R	CTTTCCTTCTATTTCAGAGTAATCC	200
Emm89-F	TAAGGCGGACAGTGACAAT	300
Emm89-P	HEX/TGTCTCTG<BHQ1dT>CRAAGATAATGAAARAGAATTACATAACAVA/Spc6	300
Emm89-R	CATCTATTTTGTCTAGATGTTCTCCT	300
Emm92-F	GATGACCGGAGCGTTTCTAC	200
Emm92-P	HEX/AATAGTGG<BHQ1dT>AGCGTGAGCACAYCA/Spc6	300
Emm92-R	AGCTCACCATGTTTAGCCAATA	200
Emm118-F	GCGGACAGTAACGCG	300
Emm118-P	ROX/TCTAGCGT<BHQ2dT>GCAAAGCTATACAACCAAAT/Spc6	200
Emm118-R	CTCCGTTTTTATCTGTAAGATCG	300

*assay targets both *emm*49 and *emm*151 types