

**Table 1A. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 1 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O4	<i>wzx</i>	F: TGAAACAGCAGTGCCTGCATTCTC R: GATTGCCGTGCCAATTATGCCGAA	832	DebRoy et al., 2018
O80	<i>wzx</i>	F: GAAGCATGGCTTAGGGGG R: TGACAAAGGTAGCCACGGAA	406	DebRoy et al., 2018
O84	<i>wzx</i>	F: TCAGCGTTCCAAGAACGACT R: TGGTGTGCACCTATACATCCGA	501	DebRoy et al., 2018
O86	<i>wzy</i>	F: ATTGAGGCTGACCGTATGGACT R: AGCAACACTCCAATGATCCACCC	562	This study
O91	<i>wzy</i>	F: CGCATTAAAGGACTGGCTGT R: GTAGCAGATATGCCGACCGT	277	Fratamico et al., 2009
O109	<i>wzx</i>	F: TCTCTCTCGACATACCCGCGCTT R: ACCGTAGCCCAAAGAGGCCACA	204	Iguchi et al., 2015
O156	<i>wzx</i>	F: TGCTCATGCCTTAAAATGG R: CAACAAGAACAGGCATCAGG	452	This study
O168	<i>wzx</i>	F: TGTCGACTTGGGAAATGTGG R: CTGCAGAGGCCAATTCAAGGT	336	DebRoy et al., 2018

**Table 1B. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 2 for the detection of non-top-7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O5	wzy	F: AGCCCAAGAGGCCGCAGTATT R: TCCAACCACCATTCTCCGCCAT	176	This study
O13/O129/ O135	wzx	F: CGGGAGAGCAGTGTTCCAA R: TATTGCGGCACCCAGTAACC	364	DebRoy et al., 2018
O22	wzy	F: TTTACTGGCTGCTGCTAGTGCT R: TCATCTCCACCACGAGTCGAAAGT	246	Fratamico et al., 2009
O119	wzx	F: CTGGGGCAATCTGCTTCCCT R: CCCAAGGTATTGTTGCCCT	421	DebRoy et al., 2018
O120	wzx	F: CTGGTTTGTTGTCATTGCT R: CCAGTTGGTGCCAACCAAAG	535	DebRoy et al., 2018
O123/O186	wzx	F: ACAATTAGGGCCTGGTGCAT R: TGTGCTAGCGCTAAAGGACT	619	DebRoy et al., 2018
O128	wzx	F: GCCATTACGACGTTGATGACT R: TGCAACCCCAATAGCAAAAGC	768	DebRoy et al., 2018
O138	wzx	F: GCAGCAATGCCTGCTGTTT R: AGCGTATGCAACCCCAATGA	696	DebRoy et al., 2018
O171	wzx	F: TGCTCAAGTGGCATGCAGAT R: TGCAACCTGATATCCAGCAGT	281	DebRoy et al., 2018
O175	wzx	F: TGTTAATTGTCCTCCGCTCA R: GCAGCCAACCAAACCTTAGC	343	DebRoy et al., 2018

**Table 1C. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 3 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O6	<i>wzy</i>	F: GGATGACGATGTGATTGGCTAAC R: TCTGGGTTGCTGTATGAGGC	783	Grozdanov et al., 2002
O25	<i>wzy</i>	F: AGAGATCCGTCTTATTGTTCGC R: GTTCTGGATACCTAACGCAATACCC	230	Li et al., 2010
O33	<i>wzx</i>	F: GGACCTCTGTTGTGGCTGT R: GGTGTGCCTATCGCATAACC	413	DebRoy et al., 2018
O75	<i>wzy</i>	F: GAGATATACATGGGGAGGGTAGGCT R: ACCCGATAATCATATTCTCCAAAC	511	Li et al., 2010
O79	<i>wzx</i>	F: GCTATAGTGCACCAGGATTGT R: GATTGCCGTCTGCCCTAAT	266	DebRoy et al., 2018
O98	<i>wzx</i>	F: GGGCGTATTGAGGTTCTTGT R: CAACTGAAATGGAGCAGCAAAT	675	DebRoy et al., 2018
O116	<i>wzx</i>	F: CTTTGCGTTGTGCCCTCGAA R: ATACTGCCCTACGTTGCCGG	355	DebRoy et al., 2018
O150	<i>wzx</i>	F: TGCCTTCACTGCTGGTTG R: ATGAGTGCAGGCAC TGAA	313	DebRoy et al., 2018
O181	<i>wzx</i>	F: TGGAGTAACGAAATACACCGCT R: AGATTGCCAATAACCAGAAGCA	595	DebRoy et al., 2018

**Table 1D. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 4 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O2/O50	wzx	F: TGGCCTGTTCGATATACTGCGGA R: TCACGAGCTGAGCGAAACTGTTCA	819	Fratamico et al., 2010
O15	wzx	F: CCAAATTGGTTTTGCAAGG R: TGCAGTAGTCGCAAGTGTGA	288	This study
O76	wzx	F: CATATGCAGATTGAAGGTTAG R: GAAAGCCATAAAGTGCC	533	DebRoy et al., 2018
O78	wzx	F: GGTATGGGTTGGTGGTA R: AGAACATCAACTCTCGGCA	992	Liu et al., 2010
O113	wzy	F: GCATGTATGATGCATAGCTCGCC R: TGATATCGTTCGCTAACCAACCCA	419	DebRoy et al., 2004
O118/O151	wzx	F: GTGGGAGTCTGAATCAAGTTGCGA R: AGAACCTTACCCAATCCTAACAGGG	344	Liu et al., 2008
O126	wzy	F: CGCATTAAATGGACCTGATAAACGCATCG R: ACTAGCGCACATATCGTTAGCACG	465	Liu et al., 2007
O146	wzx	F: AGGGTGACCATCAACACACTTGGA R: AGTTCAATACTGTCGCAGCTCCTC	640	Liu et al., 2007
O147	wzx	F: GCTTGATTGGCGGTAGTGTAT R: TGGTAATCCAGCCACAAAAGAA	230	This study
O178	wzx	F: CTGTCCGTAGTGAGGTTGGC R: ACCTCCAGATCGGTCTTAATC	495	DebRoy et al., 2018

**Table 1E. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 5 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O7	<i>wzx</i>	F: GCCAGGCAAGGATTATTATGG R: TGTCAATTGCAGGTACGCTAGA	753	This study
O8	<i>Orf469</i>	F: CCAGAGGCATAATCAGAAATAACAG R: GCAGAGTTAGTCAACAAAAGGTCAG	448	Li et al., 2010
O20/O137	<i>wzx</i>	F: GAGCAGCGGAATACTTCCA R: TCCAAGAGTCCTGATGCAAAT	204	This study
O55	<i>wzx</i>	F: TGCCAATACGTAATACCCAAAA R: GTGCCACAGGCAATCTTAT	262	This study
O62/O68	<i>wzx</i>	F: TGAAATGTTGAGCGTGAATT R: CATATGCCGAATGAGTAACC	906	This study
O87	<i>wzx</i>	F: TGGGTTTGTCAGCATCA R: TCGCTTCATTCTCCATT	306	This study
O92	<i>gnd</i>	F: TCGAAGTGGTCTGAATCTG R: TTCCCAAGTACAATGCACGA	375	This study
O136	<i>wzx</i>	F: GCCACGTACAAAAATTAGCC R: CCCCTTCTGATCCATTGA	528	This study
O163	<i>wzy</i>	F: TTGCTGATGATGAGGTTGTGA R: ATGTTCCACTCCCTGCAAGT	596	This study

**Table 1F. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 6 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O38	wzx	F: AAGAGGCTGGGCATTAGT R: TGCGCCGATAAATCCATATT	253	This study
O39	wzx	F: CACAAGCATTTCAGCCAAAG R: TGAGAAAATCACCAAGCCTGC	201	This study
O74	wzx	F: CTGGTCAATGGCAAGCTGTA R: ATGCAAAAATCCAAGCCAAT	303	This study
O88	wzx	F: TTCTCTCCCTTCGTTGGCTA R: TTCCCACACCAGCATTAACA	394	This study
O96	wzy	F: GGGCTGTTACGAGAGCATT R: GCACTACTAGGATCATCCGCA	457	This study
O107/O117	wzx	F: TTTGATGTCGTTGCTCCGTA R: TGCACCAATTGTCGGTGA	357	This study
O108	wzx	F: GGTGGTCGTGAGCAACTAGG R: TTATACGCGAGATGCTTGCG	515	This study
O115	wzx	F: GTGAATTGCTCGCCTCTCT R: TGCTACCAACCATTATGCG	158	This study
O130	wzx	F: GAGGGCTAATTGCATCCGTA R: GCAACAAATGAACGCATGAC	567	This study
O132	wzx	F: TGGCAATCCCTCTGATCTTC R: ATCAAACATAACCCGCCTGA	652	This study
O141	wzx	F: GTGTATTAACATTGCTCAAGCC R: ACGCTGAAGGAATCGTCAAC	880	This study
O153	wzx	F: TTCGTCCATGCGCAGTATT R: ATTGCCTGAACACCGGAAGAT	741	This study

**Table 1G. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 7 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O1	<i>wzx</i>	F: CTTTAGTGCAGTCGTGCG R: AGCTTGACAGGCAAAAGAT	152	This study
O18	<i>wzx</i>	F: CGAGAACGTCGAATTGAAAAA R: TGGATGCTGCGAGAATTAA	199	This study
O28	<i>wzx</i>	F: CTCAAGTCATTGGCGCATTA R: GGCTGACTGGGGTCGTTAT	255	This study
O35	<i>wzx</i>	F: TGGCATAGCGGTGTTCTATG R: CCCAAGAAAGTGGAAAAACAA	305	This study
O37	<i>wzx</i>	F: TAGCCATATGCCTTGTCTG R: TGAATCGCTGGTAACGAACA	353	This study
O40	<i>wzx</i>	F: CCTGAAGAGGCTGGAGAAT R: AAGAAAACCTATTGGCACACC	396	This study
O43	<i>wzx</i>	F: TTGAATCGAAGGCTTTGC R: AGGTATCACACCATGCACGA	445	This study
O44/17/73/7/106	<i>wzx</i>	F: GGAGAACATGTAGGCGGAGA R: AGCACATCAAAAGCTGACGTT	500	This study
O51	<i>wzy</i>	F: TTGGTCGCCTTATTATTGCTT R: AACGTAATGAAAAACCAGGAACA	566	This study
O53	<i>wzx</i>	F: CGACCTCCTTATTGGTTGC R: TCTTCCCATAATTCAATCCAA	735	This study
O69	<i>wzx</i>	F: ATCATTGCAGGGCTATGG R: CTTCTTTCATCCGAGAAT	649	This study
O70	<i>wzx</i>	F: ATACCGGTCCATCAGGAATG R: AACATCCCGCGAAAAATAAA	863	This study

**Table 1H. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 8 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O81	<i>wzx</i>	F: AGATCGCAGGCTTCGTTG R: GGGCAGGACCTCTTAAACA	248	This study
O82	<i>wzx</i>	F: TCGGGATATCTGGATTGGA R: AGCCAATTCAATTGGAATGTTT	301	This study
O85	<i>wzx</i>	F: TGGATACTGCAGGTGAGTGG R: AATGCTAAGTACAGCGCAACC	353	This study
O90/O127	<i>wzx</i>	F: CAGTCGGCTGGTGGTT R: CCCAGTTGTGCAACAATAACA	498	This study
O102	<i>wzx</i>	F: GCTCGTGAATTGGGAGCA R: TGCACATGTCAGGGTTGG	453	This study
O105	<i>wzx</i>	F: TCAAAGATGAGAGTGGGAATAGC R: CGGCTCTTCATCATTGCAT	407	This study
O124/O164	<i>wzx</i>	F: CCGCGATGAATGATTCTGTA R: TCACTCCCTGAACACTCTGCAC	570	This study
O125	<i>wzx</i>	F: GAGAGGAGCATTGATTGCTGT R: TTGAGCATTTCGACGTAGC	652	This study
O139	<i>wzx</i>	F: GGGATTAGGCGGCTTTAAT R: TACTGCCCAAAAGAGACG	859	This study
O140	<i>wzx</i>	F: AAACGCAATAAGTGGTTGG R: GCAATTGGACCAGAAACAAA	155	This study
O148	<i>wzx</i>	F: TCGCTAAACTGACAGGTGTGAT R: ACGGCCACGCTTCTTTA	201	This study

**Table 1I. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 9 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O21	<i>wzx</i>	F: GCTCAATATGAGTGAGGCTGGT R: AAAAACGCCTCGTGCTTTA	145	This study
O49	<i>wzx</i>	F: TTTACCGCGAATAACGGTTC R: ACAGGGGCAATACGTTCATC	197	This study
O93	<i>wzx</i>	F: GGCAGGAGAATATGCAAGGA R: TAAATGCCTCCCAAACACCCA	299	This study
O110	<i>wzx</i>	F: TGTTGCAAGCATGAAACTTGA R: TAAGCCATTTCGCCAAATC	346	This study
O114	<i>wzx</i>	F: TGCTACAAGTGGTGGATTGC R: CCCATACAACCACATTCTGCGTAA	396	This study
O149	<i>wzx</i>	F: AGCGGTGCAAAGTTAATTCC R: CACCAAACACATTCTGCGTAA	253	This study
O154	<i>wzx</i>	F: TTGGTTTTCCAAGGGATACA R: CAAAGCAAATACCACCATCG	499	This study
O161	<i>wzx</i>	F: GGATATCTGGTGGCGACAT R: AGCTTAAAACATGAGGGAGCTG	646	This study
O169	<i>wzx</i>	F: GAAGGAATGGGATTGAAAAGA R: CGCTTTAACAAATTGCTTCG	865	This study

**Table 1J. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 10 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O46/O134	<i>wzx</i>	F: TCAGGTGCGCCATTATTTT R: TCACCCCCATAATAACCATCTT	455	This study
O152	<i>wzx</i>	F: TCTGTCGCTATTGTCTTTCACA R: TGCGGTTAACGTACCAAAAAA	150	This study
O159	<i>wzx</i>	F: AAATCCATTGGTGGAGTAGGAA R: CTTCCGCAAATAAGGTCCAA	202	This study
O160	<i>wzx</i>	F: TGGCGTTCTAGGTCTGCTAT R: TGCAGCCCCTCTGATTCTAT	655	This study
O165	<i>wzx</i>	F: TGCGATTGCTTATTGAGC R: TCACGCTTAACGCATACAGA	735	This study
O170	<i>wzx</i>	F: AATAGAATCGCCTGGGGATAG R: CAGTGCTTAAAGGATGGTTGG	233	This study
O172	<i>wzx</i>	F: CGGGCATGTTGTTTGAT R: AGCATCCCACCTCTCACAAAT	278	This study
O174	<i>wzx</i>	F: GGAGATAAAGCTGCAGGTGAG R: CCAGTAAGCGGGCTAAAAG	317	This study
O176	<i>wzx</i>	F: TTTTAGATTGTTGATCCATTGGT R: CATAAGCGGCACTGCAATT	356	This study
O177	<i>wzx</i>	F: GGGGTATACACGCTCGCTAT R: CTTACAGCAGGCAACGCAAC	395	This study
O179	<i>wzx</i>	F: ATGCCATTGCCGATGATATG R: ACCTCCACCCAGCATAACT	505	This study
O182	<i>wzx</i>	F: TTAGTTAATGCAGCCGTACA R: GCCGATACTCCCATAAAAAGC	566	This study

**Table 1K. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 11 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O3	<i>wzx</i>	F: CGCTTAATTCGACCCAAATC R: AGTCGTTCTTGAGCCATCTGTA	145	This study
O10	<i>wzx</i>	F: AGGAAAACATTGCCGGAAT R: TATGGAGCGGTGATGAAACA	187	This study
O11	<i>wzx</i>	F: CCATTGGTCACACTGCCTTA R: CAAACCAAGAGATGCTGCAA	225	This study
O16	<i>wzx</i>	F: TTTGGGCGGTGATATTTTC R: CCGCATTAAAATTCCCTACG	505	This study
O19	<i>wzx</i>	F: GCGBAATATCTCGTGCAGTT R: GCGAAATGTGAGACAGCAAA	574	This study
O23	<i>wzx</i>	F: TTTATCTTGGGCGGCTTAAA R: CCCACCCAAGCATTACTTT	403	This study
O29	<i>wzx</i>	F: TTATTGGTTGTCGCCATT R: CGGTCAACTGTGAAAGCAA	348	This study
O63	<i>wzx</i>	F: GGGCAGATGCAAGGATTAC R: AAGACTCCTCCCCAATCAG	455	This study
O101/O162/O89	<i>wzm</i>	F: TGGACCACATTAGGTTGGTTAGAG R: AAGCATCATAAAATTGCGCCATAG	309	This study
O112ab	<i>wzx</i>	F: ACAACGTGAAATTGTGTGG R: GCACGTATGCATTCTCAAGC	270	This study
O131	<i>wzx</i>	F: GTGATTCTGGGGAACATT R: AAGCCTGCCCTAAACAAAGC	655	This study

**Table 1L. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 12 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O9	<i>wbdC</i>	F: GCAGGAGCGATTCCCTCG R: CGCCGCACTTCCGCC	309	This study
O27	<i>wzy</i>	F: AACCCATGGGAAGCTCTGGA R: ACACACAGGCAACAACATCGA	382	Iguchi et al., 2015
O41	<i>wzx</i>	F: TGGATCGCTCGTTATTGG R: CGCCACCCCTGGTATATAAA	942	Iguchi et al., 2015
O48	<i>wzy</i>	F: TATGGTGCTGCTTCTCCAA R: AGGAATTGCAGTTGTTCCGA	793	Iguchi et al., 2015
O54	<i>wzy</i>	F: TGGCAATATATGCGTTGTGA R: TGTGGACCACGTCCAACCTTC	351	Iguchi et al., 2015
O56	<i>wzx</i>	F: CTTGGGGTTTGAAGGTTGGAT R: TGCTAATAACAATGCGCCTG	250	Iguchi et al., 2015
O60	<i>wzm</i>	F: TAGGTGCGGCATGGCTAATAT R: GAATTGGCCAACATCACGAA	443	Iguchi et al., 2015
O142	<i>wzy</i>	F: TGGGCCTGCATCATTTTTC R: GGGCACGTTGACGTAATCTAA	538	Iguchi et al., 2015
O143	<i>wzy</i>	F: TGGCCTGCATGCTCTTTT R: ATATACCCCTCCGAGGACAAA	500	Iguchi et al., 2015

**Table 1M. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 13 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O12	wzy	F: CAATGGGGTTGTCGTATCAA R: AAAAATGCCCATAGGACCA	885	Iguchi et al., 2015
O58	wzy	F: TAGGTGCAAGTCCTATGTGGG R: TAGCCTGGCAGCACAGAGTTT	1046	Iguchi et al., 2015
O64	wzy	F: TGGGCAATACAAGTCTGATGC R: AGGGCGTTACCGGATAGAAAT	727	Iguchi et al., 2015
O83	wzx	F: GTACACCAGGCAAACCTCGAAAG R: TTCTGTAAGCTAATGAATAGGCACC	362	Li et al., 2010
O133	wzx	F: TAAAGGCTGCTGCTCAAGGT R: GCCCTTGCCTCAAGTATAAGG	294	This study
O166	wzy	F: TTCATAGCTGGCCTCCTTGT R: TCTATTGCCGAATCCTTCT	462	Iguchi et al., 2015
O167	wzy	F: TCAGGGCAATTACAATCCTT R: TCGCGCATAGAATAGCATGTC	403	Iguchi et al., 2015

**Table 1N. Target serogroups, serogroup-specific genes, primers and amplicon size of multiplex PCR assay set no. 14 for the detection of non-top 7 STEC serogroups**

Serogroups	Target genes	Primers	Amplicon size (bp)	Reference
O32	<i>wzy</i>	F: TCCCAACCCTGTTGCTTAA R: CAGCCAGACCAGTAGAGGAAA	452	Iguchi et al., 2015
O65	<i>wzy</i>	F: TGTTGGCGCTGGTTTATGTT R: CCCATAATTGCACCGCATAA	381	Iguchi et al., 2015
O66	<i>wzy</i>	F: CGAGCAAATTAAATCCAC R: TCAACACTAAACGAAACG	301	Cheng et al., 2007
O71	<i>wzx</i>	F: GCATTATTAGCCACTTCAA R: AGCCGTATCATTAGAGCAGA	344	Hu et al., 2010
O100	<i>wzx</i>	F: TGCAACGATTATTGGGTGTCG R: ATACAAACCCGCTTGAACCA	193	This study
O144	<i>wzx</i>	F: TCGAGAGATTCAAGCATATTGG R: CAACCCCTCCCCATAAACTC	245	This study
O173	<i>wzy</i>	F: TTCAAAGTGCTCTGGAGGGA R: TGGCTGAGACTTGACTATT	606	Wang et al., 2010
O180	<i>wzy</i>	F: TGGCATCAACGAATGATGCA R: TTGCCCATGCTTCACCAATA	744	Iguchi et al., 2015