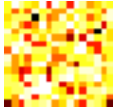

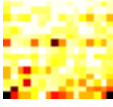













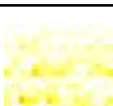



## Annex 2 : Potential donors for every RNA-free atypical region (*Bacillus subtilis*)

### Host *Bacillus subtilis* signature

Position (Kb) Distance from host (AU)	Signature of original region	Signature of 1st potential donor	potential donors sequence length	Distance from outlier (AU)	Position (Kb) Distance from host (AU)	Signature of original region	Signature of 1st potential donor	potential donors sequence length	Distance from outlier (AU)
118.251-121.750 272			<i>Streptococcus bovis</i> 16231 nt <i>Bacillus megaterium</i> 84488 nt <i>Streptococcus dysgalactiae</i> 26360 nt <i>Streptococcus equisimilis</i> 3726 nt <i>Lactococcus lactis</i> pHP003 13433 nt	208 213 213 217 227	769.751-777.250 220			<i>Bacillus licheniformis</i> 213502 nt <i>Chlorobium limicola</i> pl 14636 nt <i>Bacillus circulans</i> 45030 nt <i>Bacillus thermosporans</i> 14621 nt <i>Salmonella typhimurium</i> pSC101 9263 nt	175 175 179 187 189
123.751-144.70 219			<i>Enterococcus seriolicida</i> 4782 nt <i>Bacillus</i> sp. C-125 3003 nt <i>Vibrio harveyi</i> 31726 nt <i>Bacillus pseudofirmus</i> 21822 nt <i>Streptococcus bovis</i> 16231 nt	150 153 153 157 166	818.251-822.250 426			<i>Bacillus anthracis</i> pPX01 181654 nt <i>Cyanidium caldarium</i> 5315 nt <i>Nephroselmis olivacea</i> mit 45223 nt <i>prochlorococcus marinus</i> 1751080 nt <i>Bacillus anthracis</i> pl pXO2 96231 nt	145 153 159 159 160
203.251-207.750 250			<i>Enterococcus faecium</i> 103625 nt <i>Bacillus mojavensis</i> 84488 nt <i>Vibrio anguillarum</i> 38571 nt <i>Legionella longbeachae</i> 13679 nt <i>Streptococcus uberis</i> 8887 nt	136 140 143 148 149	1125.751-1129.250 311			<i>Bacteriophage SPBc2</i> 134416 nt <i>S.pombe</i> chromosome I 5570797 nt <i>Bacillus cereus</i> 5411809 nt <i>S. aureus</i> phage phi12 44970 nt <i>Hemorrhagic enteritis</i> virus 26263 nt	138 139 144 144 148
209.251-209.750 337			<i>Clostridium cellulolyticum</i> 21468 nt  <i>no credible donor distance too great</i>	297	1144.751-1145.750 357			<i>Pantoea citrea</i> pUCDS000 5229 nt  <i>no credible donor distance too great</i>	350
211.251-218.750 198			<i>Enterococcus faecium</i> 103625 nt <i>Saccharomyces pastorianus</i> 13908 nt <i>Streptococcus suis</i> 114158 nt <i>S cerevisiae</i> chr4 1531929 nt <i>Legionella pneumophila</i> 232469 nt	104 115 118 119 124	1277.751-1278.750 307			<i>Bacillus pumilus</i> pPL10 7028 nt <i>Arabidopsis thaliana</i> chr1 29640317 nt <i>Brassica napus</i> 265229 nt <i>Arabidopsis lyrata</i> 17162 nt <i>S.pombe</i> chromosome I 5570797 nt	211 227 229 230 232
379.751-387.750 227			<i>Bacillus licheniformis</i> 213502 nt <i>Brevibacillus brevis</i> 72621 nt <i>Paenibacillus azotofixans</i> 10674 nt <i>Bacteriophage</i> HK97 39732 nt <i>Bacillus</i> sp. BP23 12980 nt	187 197 198 201 203	1280.251-1280.750 464			<i>Fagopyrum esculentum</i> 7718 nt  <i>no credible donor distance too great</i>	344
392.751-398.750 226			<i>Bacillus licheniformis</i> 213502 nt <i>Bacillus circulans</i> 45030 nt <i>Paenibacillus azotofixans</i> 10674 nt <i>Brevibacillus brevis</i> 72621 nt <i>Heliobacillus mobilis</i> 35704 nt	166 191 195 203 206	1441.751-1447.250 255			<i>Bacillus megaterium</i> 84488 nt <i>Bacillus cereus</i> 5411809 nt <i>Bacillus mojavensis</i> 8433 nt <i>Staphylococcus intermedius</i> 11525 nt <i>S.pombe</i> chromosome I 5570797 nt	119 123 125 128 129
652.251-664.250 280			<i>Listeria innocua</i> pLI100 81905 nt <i>Streptococcus thermophilus</i> 246918 nt <i>Bacillus anthracis</i> 5227293 nt <i>Bacteriophage</i> SPBc2 134416 nt <i>S.pombe</i> chromosome I 5570797 nt	93 103 104 104 105	1478.251-1483.250 289			<i>Bacteriophage</i> SPBc2 134416 nt <i>Bacillus cereus</i> 5411809 nt <i>Bacillus mojavensis</i> 8433 nt <i>Bacillus anthracis</i> 5227293 nt <i>S.pombe</i> chromosome I 5570797 nt	116 116 118 121 123
738.751-747.250 349			<i>Bacteriophage</i> SPBc2 134416 nt <i>Streptococcus agalactiae</i> 27337 nt <i>Bacillus anthracis</i> pXO2 96231 nt <i>Staphylococcus aureus</i> phiPV83 45636 nt <i>Listeria innocua</i> pLI100 81905 nt	111 120 120 122 124	1529.751-1530.250 390			<i>Tetragenococcus halophilus</i> 21728 nt  <i>no credible donor distance too great</i>	333

1878.751-1893.250 295			<i>Bacteriophage SPBc2</i> 134416 nt 93 <i>Listeria innocua</i> pLI100 81905 nt 106 <i>Bacillus cereus</i> 5411809 nt 109 <i>Bacillus anthracis</i> 5227293 nt 110 <i>Legionella longbeachae</i> 13679 nt 110	2552.751-2553.750 245			<i>Bacillus subtilis</i> 4214814 nt 235  <b>no credible donor distance too great</b>
1897.751-1905.250 267			<i>Listeria innocua</i> pLI100 81905 nt 133 <i>S.pombe chromosome I</i> 5570797 nt 134 <i>Bacillus mojavensis</i> 8433 nt 136 <i>African swine fever virus</i> 170101 nt 141 <i>Bacteriophage PSA</i> 37618 nt 141	2585.251-2586.250 261			<i>Bacteroides fragilis</i> 274211 nt 240  <b>no credible donor distance too great</b>
1923.251-1924.250 258			<i>Bacillus subtilis</i> pTA1060 8737 nt 194 <i>Bacillus subtilis</i> pTA1040 7837 nt 206 <i>Bacillus subtilis</i> pl p1414 7949 nt 210 <i>Bacillus pumilus</i> pPL10 7028 nt 211 <i>Coxiella burnetii</i> pQpH1 37329 nt 218	2653.751-2667.250 247			<i>S.pombe chromosome I</i> 5570797 nt 94 <i>Bacillus megaterium</i> 84488 nt 97 <i>Bacteriophage SPBc2</i> 134416 nt 99 <i>Bacillus mojavensis</i> 8433 nt 101 <i>Listeria innocua</i> pLI100 81905 nt 104
1939.251-1939.750 378			<i>Ciona intestinalis</i> 238900 nt 315  <b>no credible donor distance too great</b>	2675.251-2676.250 259			<i>Bacillus pseudofirmus</i> 21822 nt 234  <b>no credible donor distance too great</b>
1977.751-1978.250 448			<i>Paenibacillus macerans</i> 18635 nt 357  <b>no credible donor distance too great</b>	2683.751-2693.750 214			<i>S cerevisiae chr4</i> 1531929 nt 123 <i>Enterococcus faecium</i> 103625 nt 125 <i>Enterococcus hirae</i> 57921 nt 135 <i>Bacillus megaterium</i> 84488 nt 138 <i>Streptococcus mutans</i> 1916111 nt 139
2029.251-2029.750 356			<i>Commelina yellow mottle virus</i> 7489 nt 330  <b>no credible donor distance too great</b>	2696.251-2701.250 250			<i>Bacillus megaterium</i> 84488 nt 137 <i>S.pombe chromosome I</i> 5570797 nt 140 <i>Streptococcus mutans</i> 1916111 nt 144 <i>Bacillus pumilus</i> pPL10 7028 nt 146 <i>Enterococcus faecium</i> 103625 nt 147
2033.751-2034.750 301			<i>A actinomycetemcomitans</i> 215048 nt 211 <i>Enterococcus faecalis</i> 213693 nt 217 <i>Bacillus subtilis</i> pTA1060 8737 nt 217 <i>Bacillus pumilus</i> pPL10 7028 nt 219 <i>Coxiella burnetii</i> plasmid 39280 nt 220	2705.751-2740.250 242			<i>Listeria innocua</i> pLI100 81905 nt 96 <i>S.pombe chromosome I</i> 5570797 nt 99 <i>Bacteriophage SPBc2</i> 134416 nt 102 <i>Bacillus mojavensis</i> 8433 nt 104 <i>Legionella longbeachae</i> 13679 nt 109
2036.251-2042.250 206			<i>Enterococcus faecium</i> 103625 nt 121 <i>Enterococcus faecalis</i> 213693 nt 137 <i>S cerevisiae chr4</i> 1531929 nt 138 <i>Saccharomyces pastorianus</i> 13908 nt 143 <i>Bacillus megaterium</i> 84488 nt 144	2742.251-2746.750 215			<i>Enterococcus faecium</i> 103625 nt 124 <i>Bacteroides fragilis</i> 274211 nt 145 <i>Streptococcus suis</i> 114158 nt 149 <i>Butyrivibrio fibrisolvens</i> 11839 nt 149 <i>Legionella pneumophila</i> 232469 nt 150
2047.251-2075.250 290			<i>Bacteriophage SPBc2</i> 134416 nt 74 <i>Listeria innocua</i> pLI100 81905 nt 78 <i>S.pombe chromosome I</i> 5570797 nt 96 <i>Bacillus anthracis</i> 5227293 nt 98 <i>Streptococcus agalactiae</i> 272377 nt 100	2765.751-2768.250 265			<i>A actinomycetemcomitans</i> 215048 nt 169 <i>Coxiella burnetii</i> 76698 nt 176 <i>haemophilus influenzae</i> 1830140 nt 177 <i>Legionella pneumophila</i> 232469 nt 181 <i>Pasteurella multocida</i> 2257487 nt 181
2097.251-2097.750 381			<i>Bacteriophage phi-105</i> 39325 nt 361  <b>no credible donor distance too great</b>	3252.751-3257.250 301			<i>Bacillus anthracis</i> 5227293 nt 122 <i>Listeria innocua</i> pLI100 81905 nt 134 <i>Bacillus anthracis</i> pl pXO2 96231 nt 135 <i>Bacteriophage SPBc2</i> 134416 nt 139 <i>Bacillus anthracis</i> pIPX01 181654 nt 139
2150.751-2285.750 298			<i>Bacteriophage SPBc2</i> 134416 nt 2 <i>S.pombe chromosome I</i> 5570797 nt 93 <i>Streptococcus thermophilus</i> 246918 nt 98 <i>Listeria innocua</i> pLI100 81905 nt 100 <i>S. aureus phage phi12</i> 44970 nt 102	3281.251-3285.750 247			<i>Paenibacillus azotofixans</i> 10674 nt 193 <i>Bacteriophage HK97</i> 39732 nt 198 <i>C. glutamicum</i> pCG4 29371 nt 202 <i>Bacteriophage HK022</i> 40751 nt 203 <i>Bacillus</i> sp. BP23 12980 nt 205

3337.251- 3337.750	 375		<i>Erwinia amylovora</i> pEA29 28185 nt  no credible donor distance too great	346	4019.751- 4020.250	 392		<i>Bacillus</i> sp. RC607 7029 nt  no credible donor distance too great	317
3462.251- 3467.250	 368		<i>Bacillus anthracis</i> pIPX01 181654 nt <i>Lactococcus lactis</i> pNZ4000 42810 nt <i>Cucumis sativus</i> 38373 nt <i>Anthonomus grandis</i> 10017 nt <i>Carnobacterium piscicola</i> 29431 nt	142 148 151 152 152	4122.751- 4134.250	 362		<i>Bacillus anthracis</i> pIPX01 181654 nt <i>Bacillus anthracis</i> pl pXO2 96231 nt <i>Bacillus anthracis</i> 5227293 nt <i>Bacteriophage</i> bLL312 15179 nt <i>Cucumis sativus</i> 38373 nt	96 114 116 127 128
3658.751- 3661.750	 260		<i>Streptococcus intermedius</i> 16249 nt <i>Bacteriophage</i> Tuc2009 38347 nt <i>Gardnerella vaginalis</i> 4590 nt <i>Tetragenococcus halophilus</i> 21728 nt <i>Enterococcus faecium</i> 103625 nt	161 168 171 171 175	4171.251- 4176.750	 418		<i>Bacillus anthracis</i> pIPX01 181654 nt <i>C. acetobutylicump</i> SOLI 192060 nt <i>Staphylococcus hominis</i> 24362 nt <i>Porphyra purpurea</i> mit 36753 nt <i>Brochothrix campestris</i> 4357 nt	117 121 127 132 133
3663.751- 3683.750	 317		<i>Lactococcus lactis</i> pNZ4000 42810 nt <i>Lactobacillus lactis</i> pl 29871 nt <i>Lactococcus lactis</i> pl pK214 29871 nt <i>Lactococcus lactis</i> pl pAH82 20331 nt <i>Bacillus anthracis</i> pl pXO2 96231 nt	103 108 108 114 115	4183.751- 4189.250	 277		<i>Listeria innocua</i> pLI100 81905 nt <i>S cerevisiae</i> chr4 1531929 nt <i>Streptococcus thermophilus</i> 246918 nt <i>S.pombe</i> chromosome I 5570797 nt <i>Bacteriophage</i> SPBc2 134416 nt	121 133 134 134 136
3712.251- 3716.750	 291		<i>Bacillus subtilis</i> pTA1060 8737 nt <i>Bacillus pumilus</i> pPL10 7028 nt <i>Bacillus subtilis</i> pTA1040 7837 nt <i>S. aureus</i> pUB110 4548 nt <i>S. thermophilus</i> pER35 9531 nt	189 190 195 204 210					