```
Gene Number Gene Name
1
               aceBAK
2
               acnA
3
               acrAB
4
               acrR
5
               acs
6
               ada alkB
7
               adhE
8
               adiA
9
               adiA adiY
10
               ahpCF
               aidB
11
12
               alaWX
13
               aldB
14
               alkA
15
               alpA
16
               ansB
17
              appCBA
18
               appY
19
               araBAD
20
              araC
21
               araE
              araFG_araH_1H_2
22
23
               araJ
24
               arcA
25
               argCBH
26
              argD
27
              argE
28
               argF
29
              argl
30
               argR
31
               argU
32
               argW
33
               argX_hisR_leuT_proM
34
               aroF_tyrA
35
               aroG
36
               aroH
37
               aroL_yaiA_aroM
               aroP
38
39
               arsEFG
40
               arsR
41
               aslB
42
               asnA
43
               asnC
44
               aspA
45
               aspV
```

```
46
               atoC
47
               atoDAB
48
               atoDAE
49
               betIBA
50
               betT
51
               bioA
52
               bioBFCD
               birA_murA
53
54
               cadBA
55
               cadC
56
               caiF
57
               caiTABCDE
58
               carAB
59
               cbl
60
               cirA
61
               clpP
62
               codBA
63
               cpdB
64
               cpxAR
65
               срхР
66
               crp
67
               csgBA
68
               csgDEFG
69
               cspA
70
               cutC
71
               cvpA_purF_ubiX
72
               cyaA
73
               cydAB
74
               cynR
75
               cynTSX
76
               cyoABCDE
77
               cysB
```

80 cysK 81 cysPUWAM 82 cvtR

82 cytR 83 dadAX

78

79

84 dapA_nlpB_purA

cysDNC

cysJIH

85 dctA

86 dcuB_fumB
 87 deoCABD
 88 deoR
 89 dmsABC
 90 dnaA
 91 dnaKJ

```
92
               dps
93
               dsbA
94
               dsdC
95
               dsdXA
96
               ebgAC
97
               ebgR
98
               ecfABC
99
               ecfD
100
               ecfF
101
               ecfG
102
               ecfH
103
               ecfl
104
               ecfJ
105
               ecfK
106
               ecfLM
107
               ecpD htrE
108
               edd_eda
109
               emrRAB
110
               entCEBA
               envY_ompT
111
112
               epd_pgk
113
               evgA
114
               exuR
115
               exuT
116
               fabA
117
               fadBA
118
               fadL
119
               fadR
120
               fdhF
121
               fdnGHI
122
               fecABCDE
               fecIR
123
124
               fepA_entD
125
               fepB
126
               fepDGC
127
               fhlA
128
               fhuACDB
129
               fixABCX
130
               fkpA
131
               flgAMN
              {\sf flgBCDEFGHIJK}
132
133
               flgKL
               flgMN
134
135
               flhBAE
136
               flhDC
```

137

fliAZY

```
138
               fliC
139
               fliDST
140
               fliE
141
               fliFGHIJK
142
               fliLMNOPQR
143
               fnr
144
               focA pflB
145
               fpr
146
               {\sf frdABCD}
147
               fruBKA
148
               FruR
149
               ftsQAZ
150
               fucAO
151
               fucPIKUR
152
              fumA
153
               fumC
               fur
154
155
               galETKM
156
               GalR
157
               galS
158
               gatR 1
159
              gatYZABCDR_2
160
               gcvA
161
               gcvR
162
               gcvTHP
163
               gdhA
164
               glcC
165
               glcDEFGB
166
               glgCAP
167
              glgS
168
               glmUS
169
               glnALG
170
               glnB
171
               gInHPQ
172
               glpACB
173
               glpD
174
               glpFK
175
               glpR
176
               glpTQ
177
               gltA
178
               gltBDF
179
               glyA
180
               gntKU
181
               gntR
182
               gntT
183
               gorA
```

```
184
              grpE
185
              guaBA
186
              gyrA
```

187 hcaA1A2CBD_yphA

188 hcaR hflB 189 190 himA 191 himD 192 hipBA 193 hns 194 htpG 195 htpY 196 htrA

197 hycABCDEFGH

198 hydHG 199 hypA 200 hypABCDE 201 ibpAB 202 icdA 203 iclMR 204 idnDOTR 205 ilvC 206 ilvIH 207 ilvY

208 inaA 209 ivbL_ilvBN

210 katG 211 kbl_tdh 212 kdpABC 213 kdpDE

214 ksgA_epaG_epaH

215 lacl 216 **lacZYA** 217 **IctPRD** 218 **leuLABCD** 219 leuO 220 leuQPV 221 leuX 222 lexA_dinF 223 livJ 224 livKHMGF

225 lon

lpxDA_fabZ 226

227 Irp 228 lysA 229 lysR

```
230
              lysT_valT_lysW
231
              lysU
              malEFG
232
233
              mall
              malK_lamB_malM
234
              malPQ
235
236
              malS
237
              malT
              malXY
238
239
              malZ
240
              manXYZ
241
              marRAB
242
              mdh
243
              mdlA
244
              mdoGH
245
              melAB
              melR
246
247
              metA
248
              metC
249
              metF
250
              metH
251
              metJ
252
              metR
253
              metT_leuW_glnUW_metU_glnVX
254
              metY_yhbC_nusA_infB
255
              mglBAC
256
              mhpABCDFE
257
              mhpR
258
              mlc
259
              moaABCDE
260
              modABC
261
              modE
262
              mopA
263
              mopB
264
              motABcheAW
265
              mtlADR
266
              mtr
267
              nac
268
              nadB
269
              nadR
270
              nagBACD
271
              nagE
272
              narGHJI
273
              narK
274
              narL
275
              narZYWV
```

```
276
              ndh
277
              nfo
              nhaA
278
279
              nhaR
280
              nirBDC_cysG
281
              nlpB_purA
282
              nlpD rpoS
283
              nrdAB
              nrfABCDEFG
284
285
              nuoABCEFGHIJKLMN
286
              nupC
287
              nupG
288
              nycA
289
              ompA
290
              ompC
291
              ompF
292
              ompR_envZ
293
              oppABCDF
294
              osmC
295
              osmE
296
              osmY
297
              ostA_surA_pdxA
298
              oxyR
299
              pdhR_aceEF_lpdA
300
              pheU
301
              pheV
302
              phnCDE_f73_phnFGHIJKLMNOP
303
              phoA
304
              phoBR
305
              phoE
306
              pncB
307
              polB
308
              ppiA
309
              ppsA
310
              proK
311
              proL
312
              proP
313
              prsA
314
              pspABCDE
315
              pspF
316
              pstSCAB_phoU
317
              ptsG
318
              ptsHI_crr
319
              purC
320
              purEK
321
              purHD
```

```
322
               purL
323
               purMN
324
               purR
325
               putAP
326
               pykF
327
               pyrC
328
               pyrD
329
               rbsDACBK
330
               rbsR
331
               rcsA
332
               rcsAB
333
               recA
334
               recN
335
               rfaDFCL
336
               rhaBAD
337
               rhaSR
338
               rhaT
339
               rob
340
               rotA
341
               rpiB
342
               rpiR_alsBACEK
343
               rpoD
344
               rpoE rseABC
345
               rpoH
346
               rpoN
               rpsU_dnaG_rpoD
347
348
               rtcAB
349
               rtcR
350
               sdaA
351
               sdhCDAB_b0725_sucABCD
352
               serA
353
               serT
354
               serX
355
               skp_lpxDA_fabZ
356
               slp
357
               sodA
               soxR
358
359
               soxS
360
               speA
361
               speC
362
               srlAEBD_gutM_srlR_gutQ
363
               ssb
364
               ssuEADCB
365
               stpA
366
               sulA
```

tarTapcheRBYZ

367

```
368
               tauABCD
369
               tdcABCDEFG
370
               tdcAR
371
               thrU_tyrU_glyT_thrT
372
               thrW
373
               tnaLAB
374
               tonB
375
               torCAD
376
               torR
377
               treBC
378
               treR
379
               trpLEDCBA
380
               trpR
381
               tsr
382
               tsx
383
               tyrB
384
               tyrP
385
               tyrR
386
               tyrTV
387
               ubiG
388
               udp
389
               uhpA
390
               uhpT
391
               uidR
392
               uidRABC
393
               umuDC
394
               uppS_cdsA_ecfE
395
               uspA
396
               uvrA
397
               uvrB
398
               uvrC
399
               uvrD
400
               uxaCA
401
               uxuABR
402
               valUXY_lysV
403
               wza_wzb_b2060_wcaA_wcaB
404
               харАВ
405
               xapR
406
               xprB_dsbC_recJ
407
               xylAB
408
               xylFGHR
409
               ybaO
410
               ybiS
411
               ycfC_purB
412
               yfhD
```

yhdG_fis

413

414	yhfA
415	yiaJ
416	yiaKLMNOPQRS
417	yjbK
418	yjdHG
419	zntA
420	zntR
421	znuABC
422	zraP
423	zwf