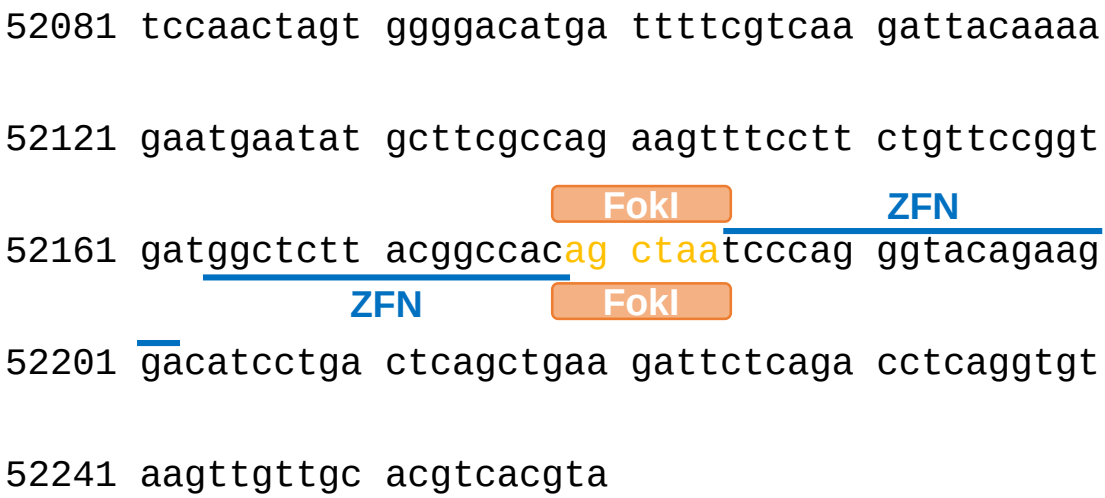
A.



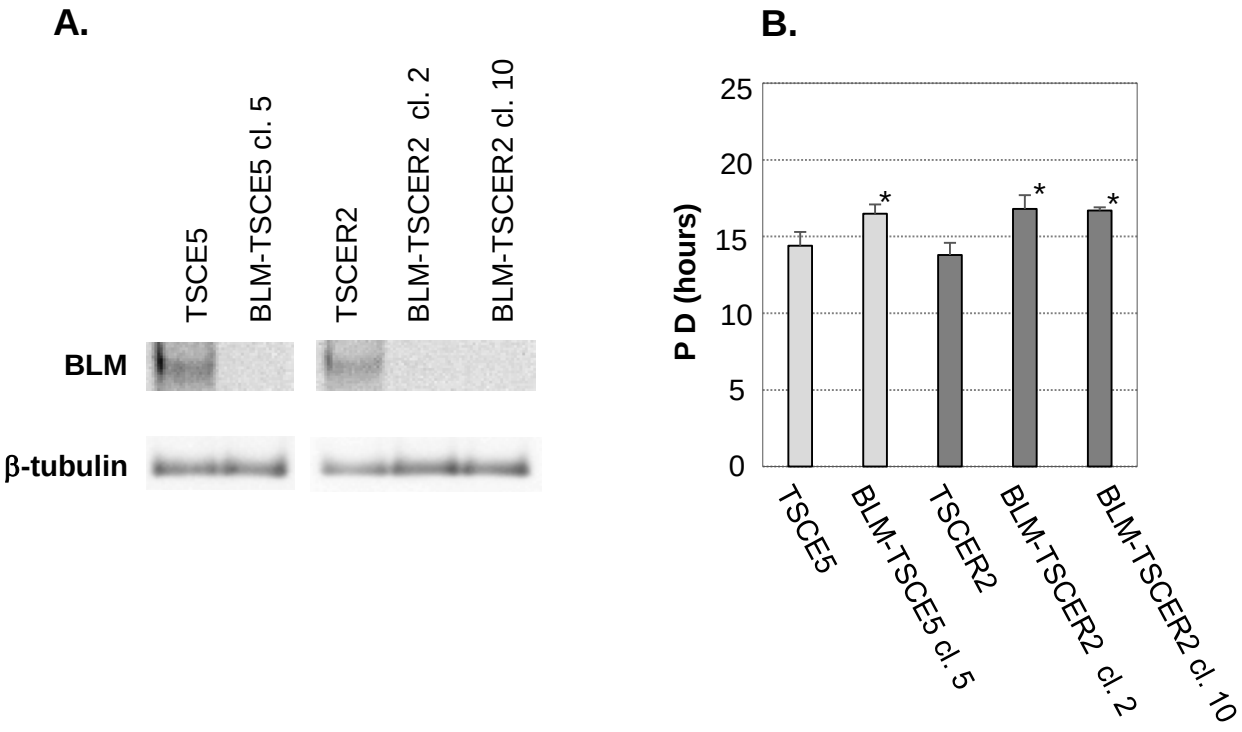
B.

BLM-TSCE5

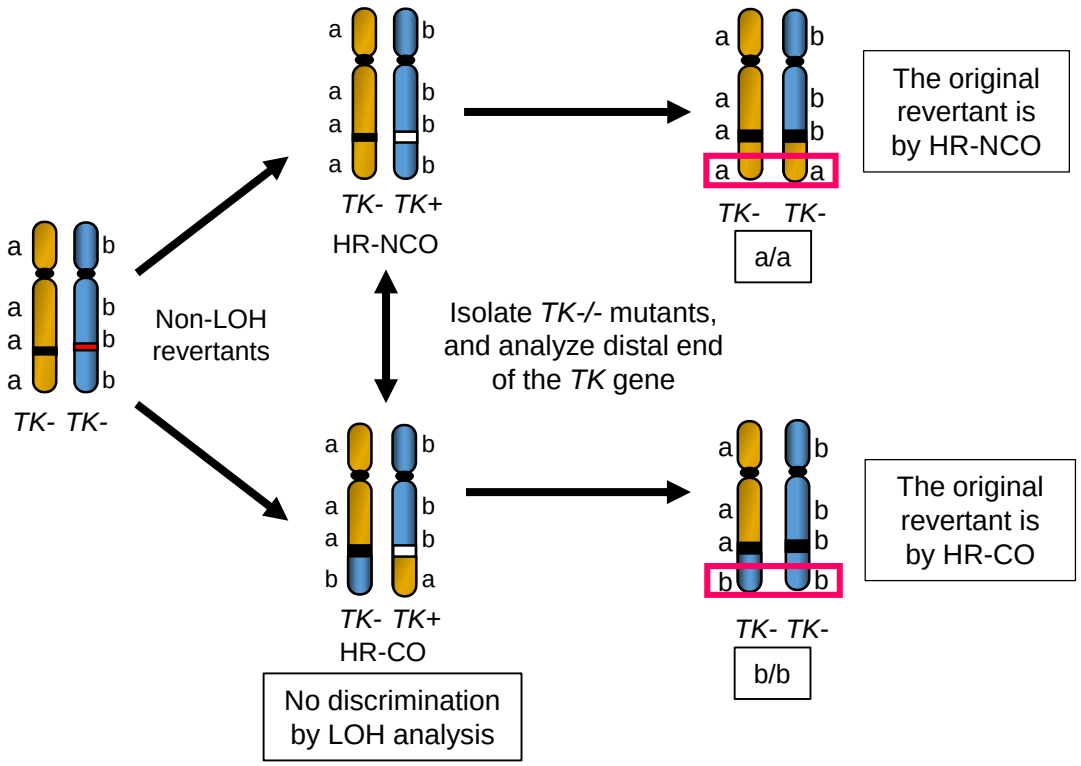
clone 5	52171 acg(Δ7 bp)ctaatcccag	52190
	52171 acggccaca(Δ5 bp)tcccag	52190

BLM-TSCER2

clone 2	52151 c(Δ74 bp + Ins 7 bp)caga	52230
	52161 gatggctc(Δ18 bp)ccag	52190
clone 10	52171 acggc(Δ75 bp)acgtcacgta	52260
	52171 acggcc(Δ183 bp)caagttgtaac	52370



Supplement 2



Supplement 3

A. Non-selected mutants from TSCE5

1) Small deletion (< 60 bp); 8 clones

TSCE_141 agatccattaccctgttatccctactctcgaggatct (Δ14)

TSCE_213 agatccattaccctgttatccctactctcgaggatct (Δ2)

TSCE_225 gggccaaatggccggagttgtcagatccattaccctgttatccctactctcg (Δ30)

TSCE_302 agatccattaccctgttatccctactctcgaggatct (Δ4)

TSCE_396 agatccattaccctgttatccctactctcgaggatct (Δ1)

TSCE_431 tgtcagatccattaccctgttatccctactctcgaggatctggcagcgt (Δ31)

TSCE_434 agatccattaccctgttatccctactctcgaggatct (Δ9)

TSCE_311 ttactccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgagg (Δ50)

2) Middle deletion (60 bp – 1kb); 3 clones

TSCE_262
ttgccaaggtcacacagataatgggtccagcgaagagtggtgtccgagcccaaggcagcaggcctttggccactgcagtgttaaacagcaca
gctggtgtggaagtccggtgctgagtcctgggtacctggactcggagggaagctggctgcaggggaaggggctgcgcagttgtggatgtacct
gtcgtctgctgggggcgtgcgggtggacacagtcccccggcctggggagcctcgtgggagaattaagagttactccgggccaaatggccgg
agttgtcagatccattaccctgttatccctactctcgagg (Δ295)

TSCE_306
gggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgctgctg
gggtggaagctctcacactctttctccacgtgccctttccagttccctgacatcgtggagttctgcgagg (Δ144)

TSCE_392
cggcctggggagcctcgtgggagaattaagagttactccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggat
ctggcagcgtcttcgctggggctccagggagctgctgctggggtggaagctct (Δ129)

3) Rearrangements; 4 clones

TSCE_9 agatccattaccctgttatccctgcgaagactctcgaggatct (Δ9 / +6 unknown)

TSCE_393 ctccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcag (Δ23 / Δ9)

TSCE_283
ggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgctgctggggtggaagctctc
acactctttctccacgtgccctttccagttccctgacatcgtggagttctgcgaggccatggccaacgccggggaagaccgtaattgtggctgcactg
gatgggaccttccagaggaaggtaaggcgtctgatccaggtctggagctgggattgaggagggcaagaggcttctggatgggcacagagaca
ccagctctgggtgaccagggctcagccaccacagggttacggccgagctgctcaggccttggctgagcc (Δ37 / +117 inverted
insertion of part of TK gene / Δ179)

TSCE_214
ggggagcctcgtgggagaattaagagttactccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggca
gcgtcttcgctggggctccagggagctgctgctggggtgggagctgctgctggggtggaagctctcaca (Δ22 / +18 inverted
insertion of part of TK gene)

Supplement 4A

B. Non-selected mutants from BLM-TSCE5

1) Small deletion (< 60 bp); 18 clones

BLM_19 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_47 agatccattaccctgttatccctactctcgaggatct (Δ11)

BLM_68 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_75 agatccattaccctgttatcccctactctcgaggatct (Δ16)

BLM_83 agatccattaccctgttatcccctactctcgaggatct (Δ16)

BLM_145 agatccattaccctgttatccctactctcgaggatct (Δ3)

BLM_147 agatccattaccctgttatccctactctcgaggatct (Δ24)

BLM_233 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_268 tcagatccattaccctgttatccctactctcgaggatctggcag (Δ31)

BLM_328 agatccattaccctgttatccctactctcgaggatct (Δ4)

BLM_361 agatccattaccctgttatccctactctcgaggatct (Δ1)

BLM_356 ttaccctgttatccctactctcgaggatctggcagcgtcttcgct (Δ31)

BLM_364 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_371 agatccattaccctgttatccctactctcgaggatct (Δ4)

BLM_377 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_383 ccggagttgtcagatccattaccctgttatccctactctcgaggatctggcag (Δ40)

BLM_410 agatccattaccctgttatccctactctcgaggatct (Δ9)

BLM_466 agatccattaccctgttatccctactctcgaggatct (Δ14)

2) Middle deletion (60 bp – 1kb); 3 clones

BLM_67
gagaattaagagttactccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgct (Δ73)

BLM_2
gggtggacacagtcccccggcctggggagcctcgtgggagaattaagagttactccgggccaaatggccggagttgtcagatccattaccct
gttatccctactctcgaggatct (Δ108)

BLM_327
caaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgctgctgggg
tggaagctctcacactctttctccacgtgccctttccagttccctgacatcgtggag (Δ131)

3) Large deletion (>1kb); 2 of 6 clones

BLM_176, BLM_243
ggcacagaggct----------
gtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgct (Δ1518)

4) Insertion (1 bp); 2 clones

BLM_23, BLM_259 agatccattaccctgtttatccctactctcgaggatct (+1)

Supplement 4B

5) Rearrangement ; 5 clones

BLM_266 agatccagtaccctgttatccctactctcgaggatct (+1 / Δ9)

BLM_102
gctgcgcagttgtggatgtacctgtcgtctgctgggggcgtgcgggtggacacagtcccccggcctggggagcctcgtgggagaattaaga
gttactccgggccaaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttctccgagcccaaggca
gcagctggggctccagggagctgc (Δ157 / +18 unknown)

BLM_432
gttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgctgctggggtggaagctctca
cactctttctccacgtgccctttccagttccctgacatcgtggagttctgcgaggccatggccaacgccgggaagaccgtaattgtggctgcact
ggatgggaccttccagaggaaggtaaggcgtctgatccaggtctggagctgggattgaggagggcaagaggcttctggatgggcacaga
gacaccagctctgggtgaccagggctcagccaccacagggttacggccgagctgctcaggccttggctgagccaagggactccatggtct
gtgcagactgcgtgccatctgttgcggcaggtgctttgaattggcaaaggg (Δ97 / +129 inverted insertion of part of TK
gene / Δ167)

BLM_85
ccgggccaaatggccggagttgtcagatccattaccc (sequence of part of pCBASce vector)tgttatccctactctcgagga
(Δ30 / +1484 part of pCBASce vector)

BLM_172
aaatggccggagttgtcagatccattaccctgttatccctactctcgaggatctggcagcgtcttcgctggggctccagggagctgctgctggggt
ggaagctctcacactctttctccacgtgccctttccagttccctgacatcgtggagttctgcgaggccatggccaacgccgggaagaccgtaattg
tggctgcactggatgggaccttccagaggaaggtaaggcgtctgatccaggtctggagctgggattgaggagggcaagaggcttctggatgg
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atggtctgtgcagactgcgtgccatctgttgcggcaggtgctttgaattggcaaaggacagagccgggcatggtgctctgggggttgggggaa
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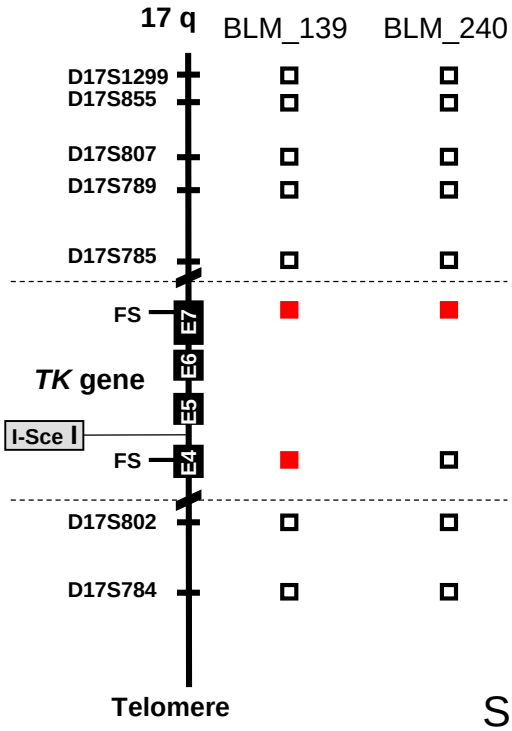
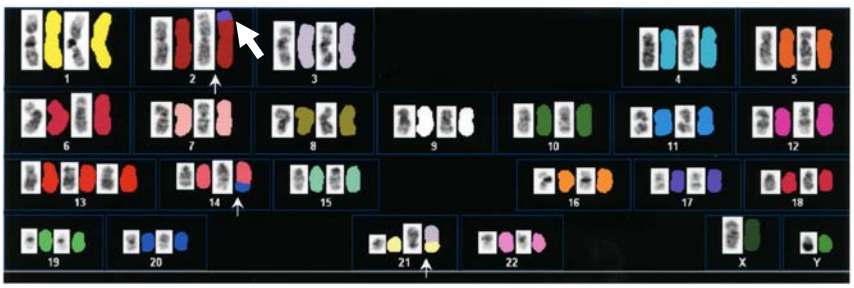
ggctctgcctccttcctgtcctggcccttcacccatccccctgtccctgcggccaggtcgaggtgattgggggagcagacaagtaccactccgtgtg
tcggctctgctacttcaagaaggcctcaggccagcctgccgggccggacaacaaagagaactgcccagtgccaggaaagccaggggaag
ccgtggctgccaggaagctctttgccccacagcagattctgcaatgcagccctgccaactgagggacctgcgagggccgcccgctcccttcct
gccactgccgcctactggacgctgccctgcatgctgcccagccactccaggaggaagtcgggaggcgtggagggtgaccacaccttggcctt
ctgggaactctccttttgtgtggctgccccacctgccgcatgctccctcctctcctacccactggtctgcttaaagcttccctctcagctgctggtgac
cttggcaatgacgatcgcccaggctggagctggccccgcttggtggcctgggatctggcacactccctctcct (Δ1178 / +14 unknown)

6) Recombination ; 2 clones

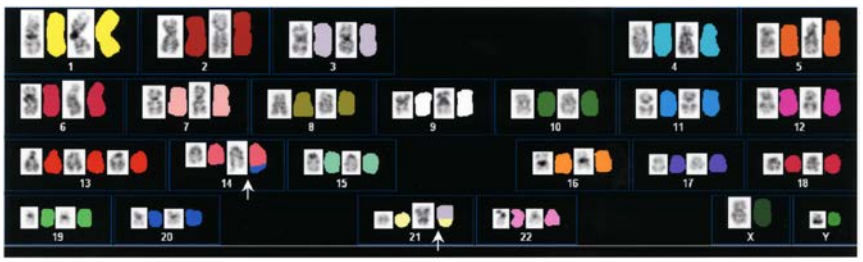


Supplement 4B (continued)

7) Translocation ; 1 clones



BLM_89



Parental BLM-TSCE5

Supplement 4B (continued)