

Summary of the investigated sequence of pCE7, MaA81 and pL01. a) sequence of pCE7. No cytosine methylation was observed in the processed DNA-molecules in the mature macronucleus. The pattern of cytosine methylation is identical in Micronuclei and macronuclear anlagen. Bold underlined sequences correspond to the 1.1kb MDS, thin underlined sequences to the 1.3kb MDS. [] marks the IESs. Bold characters represent *cis*-acting sequences involved in the fragmentation of these MDSs. White on black characters show the position of the methylated cytosines. b) Sequence of MaA81 from Micronuclei and macronuclear anlagen. White on black characters show the position of the methylated cytosines. Fat characters show the C₄A₄ Box. Underlined is the 2.6kb gsp. c) sequence of pLJ01.

Sequences between the investigated sequences are not shown.

a)

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pCE7      AGATGTTTCAG GCGGAAACGC TGAAGCAGCG GGCCATGTGC TATTGCTAAC
pCE7      ATCATTACCG GAAGATGAAT ATTCAGCAGA GCAAGTGGCT GATTGTTACC
pCE7      GTCTGCGATG GCAAATTGAA CTGGCTTTTA AGCGGCTCAA AAGTTTGCTG
pCE7      CACCTGGATG CTTTGGCTGC AAAGGAACCT GAACTCGCGA AAGCGTGGAT
pCE7      ATTTGCTAAT CATCTCGCCG CATTTTAAAT TGACGACATA ATCCAGCCAT
pCE7      CGCTGGATTT CCCCCCAGA AGTGCCGGAT CTTATAAATT AATTGCATGA
pCE7      ATTTGAAAAG CCAATTTATA ATGAATCTAT ATTGAATTCC ACTAATGAAT
pCE7      AAGAGATATT CCAATTTTAA TTTAAAGATA AATACAGTTA ATACTCAAAT
pCE7      ATAATAAATT ATAAAGAAAA ATAAAAATGT TTGAAACTAA CTATAGGAAT
pCE7      TCCACTTCCA GGCTACACTG GCCACGTTC AGGCAAAATC GAAAATGACA
pCE7      TGCCTCCTGA TAACAAAAGAA CCAAGAAAAGC ACATTCCAGG TATATTTGAA
pCE7      CATTAGTAAC TAAGTGGATC ATAGGTTATG GTGGATACGT TCCAGGTGTT
pCE7      AAGAGTGAAA ATGTTTTTGG ATAGACCTAT GGAAAAACCA GCTATCAATC
pCE7      XXX576nXXX CTCTTAGATA AACATCGCAA TTTGTGCCAG AATATAAGAG
pCE7      ACCAAAACAA GACGATCTTT GG[TATTTCA AATTATAGTA TATATTTTTG
pCE7      AAAGG]TATT GAAATCAGAT AACTCGCAAC TTAATCTCAG AAAGCATAAT
pCE7      ACTCAATATT CTCTAGCTTA TATTTTAAAG TATTTAAAGT TCAAATTTCT
pCE7      TCTAAAATCT TTGAATTATA CGATCATAAA CTGATTACTC AGTCCAGGAT
pCE7      TCTTTAGAAT AATATTTAAT GAAAATAATT ACAAAAATTA ATTACTTATA
pCE7      TCCCAGTTAT TTTTAATAAA TCAAACAAAT AAATACGTAA CTATAACACA
pCE7      AGGCAGGAAA ATTGCTACTC TCAGATATTC XXX262nXXX AACGAGTCTC
pCE7      GTGGTCTATA CATTGCTCGA AGGTAAGCCT CAGAGAACAC TTCTTGGTGC
pCE7      ATTTCTTCTT GAGAGTCTGC CATTTAACAT TT[GGAGTTT GAG]ACAATG
pCE7      ATTTGAGTTT AGACTCTGTT TCTAGCAGTT TATGGACGTA ATTTAGGGAT
pCE7      ACAAGATCTC CGGGCTCTGT ACCTCATGCT TAAATAGGAC GACGTCTTCA

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pCE7 TAAGGACGTA CCTTCTCAAA GCGAGGAAGA TGCTTTGAAA GTATTCTATG
pCE7 GAGTTGAAGA ACCCAAAAAAC CAAGCTCCAA GAAATGGAGA TCCCATTCCA
pCE7 GGCTACAGTG GGGTAAACAG AAGAGTATAG GCTGACAACG TATCGTATGA
pCE7 CTTATGCGAG GCATGAAGAA GAGCCCAAGA AAGCTAAAAAT AGAATAACTA
pCE7 CTGAGAAAGG AGAGACTCTT AGATAAACAT CGCAATTGTG CCAGAATATA
pCE7 AGAGACCAAA ACAAGACGAT CTGGTATTTT AAATATAGTA TATATTTTTG
pCE7 AAAGGTATTG AAATCAGATA ACTCGCAACT TAATCTCAGA AAGCATAATA
pCE7 CTCAATATTC TCTAGCTTAT ATTTTTAAGT ATTTAAAGTT CAAATTTCTT
pCE7 CTAAAATCTT TGAATTATAC GATCATAAAC TGATTACTCA GTCCAGGATT
pCE7 CTTTAGAATA ATATTTAATG AAAATAATTA CAAAAATTA TTAATTTATAT
pCE7 CCCAGTTATT TTTAATAAAT CAAACAAATA AATACGTAAC TATAACACAA
pCE7 GGCAGGAAAA TTGCTACTCT CAGATATTCT CTTATTCTTT GTAAATATTT
pCE7 ATAGATTTCA CAGCAATTAA GCTGTTTTCA ATGTTTTAAT TAATGTTACA
pCE7 AGGGGATGCT TCGGTAAAT ACTGAACCAG ACTTTCAGAG CGATATCTAG
pCE7 GACTGTTGAA ATCATCAGTG CTGCTGTAAG AGTCCCCGTC GGAGAATGAT
pCE7 TTGAGTGAAA AGTTGCGAGA ATCGGAGTCA AATGTTTCTC CGCCATCACT
pCE7 CTCAAAGTGT GACATATTCC TCTTATGACT CTTTATAAAT TCCAATTATC
pCE7 TCATTTTCATC CTCACCTTTC TCTGTTATGT TAGCAAATAA AACGAGTCTC
pCE7 GTGGTCTATA CATTGCTCGA AGGTAAGCCT CAGAGAACAC TTCTTGGTGC
pCE7 ATTTCTTCTT GAGAGTCTGC CATTTAACAT TTGGAGTTTG AGACAATGAT
pCE7 TTGAGTTTAG ACTCTGTTTC TAGCAGTTTA TGGACGTAAT TTAGGGATAC
pCE7 AAGATCTCCG GGCTCTGTAC CTCATGCTTA AATAGGACGA CGTCTTCATA
pCE7 AGGACGTACC TTCTCACTAA TGATTGACTG GCTTAGACTA TACATACAAT
pCE7 GAAAAACATGA AAACATGAAA TTTGTAGACG TTACTTTTCA TTCTAGGGTT
pCE7 CTTTGTAAAT CATCTCAAAG TTGCCATGTG CAAATTGACA TTT[TAATTG
pCE7 CTTCAATAAT TATTGTGCTT ATATGGGATT ATAATAAGAA TGAGTAGACA
pCE7 TTT]GTGGCC ATATCTGCAT TACCAACTCT ATCCAGTTTA CACATTCAGT
pCE7 CTTATACTTG CCTTATCAAC CTAGTATTCT TTTGAGTAAC CTACTATAGC
pCE7 TATTTGTTCT GCAGAGTTTA CTGATGATTC ATTAGCTGGA ATTGGGGATT
pCE7 GGCGGTTTGA ACCATCATTC CATGATTGGT ATAATCGAAG TAGAAACGTT
pCE7 GCTAGTTTTG CTGAATCTAT TAGAGTTTAT CGAAATTTTG GCCGCTAATT
pCE7 TGACTCTTGT TG

b)

MAA81, Mic TTTGGTAACC CCCGAACTTG GGAACCATTC GCATATTGCT CGATCCTCAT
MAA81, Anlage TTTGGTAACC CCCGAACTTG GGAACCATTC GCATATTGCT CGATCCTCAT

MAA81, Mic AAATGGTAGC TCTGCTACAT TTTACACAT TCTTAATTTA GACTATGCGA
MAA81, Anlage AAATGGTAGC TCTGCTACAT TTTACACAT TCTTAATTTA GACTATGCGA

MAA81, Mic GTAGTCTATC GAGCATCATT TCATATTTCA CTTCTTAGGG TACGTGGTGC
 MAA81, Anlage GTAGTCTATC GAGCATCATT TCATATTTCA CTTCTTAGGG TACGTGGTGC

 MAA81, Mic TCACTTTGCT TTCGCACTCT TGCTCCACCT ATATCTCTAA TTTTAAATTC
 MAA81, Anlage TCACTTTGCT TTCGCACTCT TGCTCCACCT ATATCTCTAA TTTTAAATTC

 MAA81, Mic AAATCTATAA TTTTAAATTT AAAGTTAAGA AAGTAATGGT ACGCGACTAC
 MAA81, Anlage AAATCTATAA TTTTAAATTT AAAGTTAAGA AAGTAATGGT ACGCGACTAC

 MAA81, Mic AAGTGCCAAG GTGCAATAAG GTCTTCGAAT XXX136nXXX GAAATCACAA
 MAA81, Anlage AAGTGCCAAG GTGCAATAAG GTCTTCGAAT XXX136nXXX GAAATCACAA

 MAA81, Mic GAGGAAGTGC TTAATTGGAA TGAAGTATAG CTAGATCCTG GCTATCGAAC
 MAA81, Anlage GAGGAAGTGC TTAATTGGAA TGAAGTATAG CTAGATCCTG GCTATCGAAC

 MAA81, Mic AATAAAATCC AATAGAGAAA CAGGTCCTTA GAAAAGACAA TACTTTAGAT
 MAA81, Anlage AATAAAATCC AATAGAGAAA CAGGTCCTTA GAAAAGACAA TACTTTAGAT

 MAA81, Mic AGCTAGACTC TAGGTGCACC TGTCTCTGAT GATGAGCAAC CAGATTACCT
 MaA81, Anlage AGCTAGACTC TAGGTGCACC TGTCTCTGAT GATGAGCAAC CAGATTACCT

 MaA81, Mic AGAAATTCAT CCTCATGAAA AGTTCAAACA AGGTGGGCCA CCACCTAAAC
 MaA81, Anlage AGAAATTCAT CCTCATGAAA AGTTCAAACA AGGTGGGCCA CCACCTAAAC

 MaA81, Mic TTTTAAAGTC AATGTCTCCA CACTAGGTAA GTCTAAAAGG CTTTTTAGAT
 MaA81, Anlage TTTTAAAGTC AATGTCTCCA CACTAGGTAA GTCTAAAAGG CTTTTTAGAT

 MaA81, Mic CTAGACTAAC ATTACTCTTA GTAGGACAGA CATAAATAAT CAAAGCCCCA
 MaA81, Anlage CTAGACTAAC ATTACTCTTA GTAGGACAGA CATAAATAAT CAAAGCCCCA

 MaA81, Mic GGTCGAGAAG ACTTTTCGAA CAACGACCAA AGATACATCC ATCGACTTAA
 MaA81, Anlage GGTCGAGAAG ACTTTTCGAA CAACGACCAA AGATACATCC ATCGACTTAA

 MaA81, Mic TGAATGCCTC AACCGACATC TCTCTCAATC AATCAAAGGA ATCCAAGTGC
 MaA81, Anlage TGAATGCCTC AACCGACATC TCTCTCAATC AATCAAAGGA ATCCAAGTGC

 MaA81, Mic CTCATTTAAA CTTAGAGCCA GGTGGTTGAC CTGAGTAAGT AAATTCTAAT
 MaA81, Anlage CTCATTTAAA CTTAGAGCCA GGTGGTTGAC CTGAGTAAGT AAATTCTAAT

 MaA81, Mic TACCCACTAG CTATGCACTT AGGTAAAAGT CAAGCAACCT TCTGTCTCGA
 MaA81, Anlage TACCCACTAG CTATGCACTT AGGTAAAAGT CAAGCAACCT TCTGTCTCGA

MaA81, Mic	TCAGGCTAAC	GGTCCCATGA	AGAGGAGCTA	TAGCTCTATC	TAACATGTAA
MaA81, Anlage	TCAGGCTAAC	GGTCCCATGA	AGAGGAGCTA	TAGCTCTATC	TAACATGTAA
MaA81, Mic	GTGATGTTGT	TCTCTAAATT	GCAAAGTTTA	TAGATGATAA	CCCAGCTCAT
MaA81, Anlage	GTGATGTTGT	TCTCTAAATT	GCAAAGTTTA	TAGATGATAA	CCCAGCTCAT
MaA81, Mic	TCAAATGTAG	GTGGTTCTTT	AAAGAGCGAT	ATGCTTTCAT	CAATCTCAAG
MaA81, Anlage	TCAAATGTAG	GTGGTTCTTT	AAAGAGCGAT	ATGCTTTCAT	CAATCTCAAG
MaA81, Mic	AGTCTCAGAG	GACCATATGA	ATCAATCAAA	CTCAACGATC	ACTGATATAG
MaA81, Anlage	AGTCTCAGAG	GACCATATGA	ATCAATCAAA	CTCAACGATC	ACTGATATAG
MaA81, Mic	TAGCATTGGT	GGTGAAAGAC	CAATCTAATC	TAGAACCACC	TTAGGTATGT
MaA81, Anlage	TAGCATTGGT	GGTGAAAGAC	CAATCTAATC	TAGAACCACC	TTAGGTATGT
MaA81, Mic	GATGTGCAAC	TAAGAATTAA	CAAATTCAGA	ACCTCCATTT	ACAAC TTTAT
MaA81, Anlage	GATGTGCAAC	TAAGAATTAA	CAAATTCAGA	ACCTCCATTT	ACAAC TTTAT
MaA81, Mic	CTCCAGCAAG	ACCAACCTGG	ACTGGAGCTA	CTAAGAAATC	ATTCCTCGTG
MaA81, Anlage	CTCCAGCAAG	ACCAACCTGG	ACTGGAGCTA	CTAAGAAATC	ATTCCTCGTG
MaA81, Mic	ATTCTAAATC	AATCCCAGTT	CACATGACCC	GAAGCAAGGA	CAAGGTGGCC
MaA81, Anlage	ATTCTAAATC	AATCCCAGTT	CACATGACCC	GAAGCAAGGA	CAAGGTGGCC
MaA81, Mic	TGATGATCAA	XXX478nXXX	ACCCTGGGTC	TATTATAGGT	GAAGAATTAT
MaA81, Anlage	TGATGATCAA	XXX478nXXX	ACCCTGGGTC	TATTATAGGT	GAAGAATTAT
MaA81, Mic	AAACTTCATT	CTAGATTCTC	TATGCCCCAA	AACCCCAAAA	CCTCATTTCT
MaA81, Anlage	AAACTTCATT	CTAGATTCTC	TATGCCCCAA	AACCCCAAAA	CCTCATTTCT
MaA81, Mic	TTTGAATGA	ATATGTAAAT	ATAAAGAAAG	TTTATAATAT	CAACTTCCAG
MaA81, Anlage	TTTGAATGA	ATATGTAAAT	ATAAAGAAAG	TTTATAATAT	CAACTTCCAG
MaA81, Mic	CAAAAATAC	AGTCTTTACT	TTATATAAAA	TCTTATATAG	GCTTATGCAA
MaA81, Anlage	CAAAAATAC	AGTCTTTACT	TTATATAAAA	TCTTATATAG	GCTTATGCAA
MaA81, Mic	CATCTGTATG	TAATAACAAC	ATCCAATTAC	TAATAGGAGC	AGATATGTCA
MaA81, Anlage	CATCTGTATG	TAATAACAAC	ATCCAATTAC	TAATAGGAGC	AGATATGTCA
MaA81, Mic	ACTTCACAAA	AGAGTCGACA	CATTCAAGTT	<u>TTATGGACCC</u>	<u>CAATATGGCC</u>
MaA81, Anlage	ACTTCACAAA	AGAGTCGACA	CATTCAAGTT	<u>TTATGGACCC</u>	<u>CAATATGGCC</u>

MaA81, Mic ATATTTAATA GTAAACCTAA
MaA81, Anlage ATATTTAATA GTAAACCTAA

c)

pLJ01 GATAAGGTGT TGGGGTTTAA TTTGAAAGAT TTGTTTATGG AAAGTGAGTT
pLJ01 TTTATTGTTG GTATATTTGT ATGAGTGTTT GTAGGAAGTT ATTGTTTAGG
pLJ01 AAATAGTTTA TTAGAATTAA TGTTTATTAA GAATATTTAT ATTTTTTTGT
pLJ01 GTGTGGTTGA GAAAAGTGAT TTTGATGTGT TTTATGTTTG TGAGAATGAT
pLJ01 ATGTTGGTTT GGAAAGTAAG TAATATTTAA ATGTTTTTTA GTAAATATGT
pLJ01 TTTGGAGTAA TATTTTGATA TTGTATATTA GGATATTTAT ATTAATAAGT
pLJ01 AGTTGTGTTT GATGATTTGT ATATAGGATT TGGGTGTAGT TGTGGGAATT
pLJ01 ATTGATTTTT TTGAATTTGA GTTGGTTTAT GTTAGGATAG GAGTAGGGGT
pLJ01 GTTGATTTTT GAAATTTTTT GTAATAAAGG TTATGTTTAT GAAGTGTTTT
pLJ01 GTTGTTTG