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## Vaginal secretion marker

### VG\_1\_I cg13356427

CCCCTTGCATGGGTGACCTGGCCTCTGCCTGGTGCCTGGCCCCACCTTTCTGCCAGCCTGGGTATCTGGCCCCAGACTTACCAGGGTCTGCCCCCTCCCCACT  
GCCTCAGGAAAGAGGAGGAGCGACAGAAGCAGGAGGAGCTGCGGCGGGAGAAGGAACAGTCAGAGAAGCTGCGGACGCTGGGCTACGATGAGAGCAAGC  
TGCGCCTTGGCAGCGACAGGTCATCTGAAGAAGGGGGACATCGCTAAGTACTAGAGGCCGAGACTCCTGTCCGAGCCTCGAGCTCCGTGGGGCCCTCC  
GCCCCAGCCCCAGCCAGCCAGGCCCTGGTGGAAAGGCTGGGAGCCGACAGCCCTCCCTCCTCGCGTGGAAACCCTCCCTGACCCCCACCCTGGCCCCCGTA  
TCCCCAGCCCTTGGCAACACTGGAGTGCAACGCGCCACGGTTGCCAGAAAAAGTGCCCAAGCTGCTGACGCAAAACAACAATGCTGCTATTTGCATG  
CCGACTTACATATATTTGCATGTTCTGTTGACTATCAAAGAGTGACAGCTCTCCCCAGCCCCGTGGGTGGTACTTTGTTTTCTGCGGGGCTCAGCCCCCTCA  
GGATGCAGCCCCCTCCCCGCACCCCGGAACCGGCTCGCTGCGCATCCTGGGTGGAGGCAGGCCCGAGCTCGGGGAAG

cg13356427 (Blood 2%, saliva 10%, sperm 1%, cervix 60%)

Vaginal chr1 forward: TM: 64°C, Länge: 20 bp

Vaginal chr1 reverse: TM: 68°C, Länge: 19 bp

### VG\_1\_II cg09809932

CCGAGCAGCTGCGCGCCGCGCCCTCTGCACGAAGCTGCGCGGCGTCCAGGACTACCTCGACTGCGCAAGGAGCGCATCGTTTACCTTCTCTGGAGCA  
CTGCGCGCGCTGGGCTGCCGCGGACCAGGCCGCCGCGCCAGCGCGCGCTACGCGGACTGCTGCCCGCGTGGCGGCTGCCGTTGCTGGCCGGGGCTGG  
AGGCCACGGACGCCCCCGCTGCCGCGAGCAACAGCGAGGCCACAGCCCCGACGAACGGCTGCGGCAGCTGCTGAGGCAGCGGAGGCGGTGGCAA  
GCTGCTGGGCCACTGGCGGAGCCTGCTGCGTCCGTGCCGGCAAGCCCGGGCCTGCGCAAGCGCTGTATTGGCCCAACACTTCTGCGGCCCTGACGG  
CGGCGCACCCCCGCACTACGACGCTCACGCTCGACTTTCATGCTCGGCTACTTCCAGTACTCGAGATGGGCCTGAGCGAGGAAGGCAAGTTCCGCC  
ACCTACTGTGCTACGAGATGTTGACCGACTGGGCAGCCACCCGTGGGAGCGCATCCGCTTCCACCGCGTGGTGTGAGGAGGTGGAGGCCGGCCGCG  
GCGGCTGGAGCGACGGCTTCGAGGACCTCAGGCACCGTTCTTGGAAACGGCCTGGAGGCTGAGCCGGCCCCGAAGAACAGGCGAAG

cg09809932 (Vaginal 60% +-12, Saliva 4% +-2, Blood 10%+-4, Semen 1 +-0)!!!!!!!!!!!!!!!

cg00833822 (Vaginal 53%, Saliva 27%, Blood 33%, Semen 10)

cg26419880 (Vaginal 50%, Saliva 5%, Blood 8%, Semen 1)

cg12143651 (Vaginal 40%, Saliva 23%, Blood 27%, Semen 8)

Vaginal\_chr1\_forA: TM: 64°C, Länge: 18 bp

Vaginal\_chr1\_revA: TM: 64°C, Länge: 17 bp

Vaginal\_chr1\_forB: TM: 66°C, Länge: 19 bp

Vaginal\_chr1\_revB: TM: 64°C, Länge: 19 bp

### VG\_chr2\_I cg15402210 (Lin 2016)

ATTCGAGGAACCTTCACTCCCGAGGGGCTCGCCGAAAAGCAGCTCCTCGCTCCCGAAGCCGCTCCAATCGGCCAACTGACAACCTTCCCTCGCCCCAGATT  
TGCTAGGATGGTCTGGGACCGCCGGGCGCCCCCTACTGCCCTTCACTTGTAGTCCCGAGCCTCTCGGGGTTTCAATTGGGCTGTCGGTGCGGCCGAA  
CGCCCTCAGCGGCGGTGGAGCGTGGACTCCGCGCGCTGGCGGGGTAAGGCCCGCGGCAAGGGCGTGCATCCGGACATCGCTCGTGGTGGCCAGACGCT  
GGTCCCGAGAACGGGCACGAGCCAGCACGCCGAGGACCCGGAAGACCCGGAAGCCGCGCTGCGGGAAAAGAGACTATCGGTCCGAGGGTCCGAGAGGA  
GCAGGGGCGTTGGCAGCGGGCTTGTGGGACAGTCTGCGGGCCGGAGCAGAAGTCCGCCCTGGTTCAGATCCCTCGGCTCAGATCCA

cg15402210 (Vaginal 30%, Sperm 1%, Blood 2%, Saliva 2%)

VG\_chr2\_I\_forw: TM: 66°C, Länge: 19 bp

VG\_chr2\_I\_Rev: TM: 66°C, Länge: 20 bp

VG2Icut3var1f: TM: 66°C, Länge: 21 bp

VG2Icut3var2f: TM: 66°C, Länge: 21 bp

VG\_2\_I\_cut2\_r: TM: 64°C, Länge: 18 bp

### VG\_5\_I cg04541368

GGATGCAGGATATGGAATTAGGGAATTCGGGACGGAAA **CG**TAGCGTTTAGGACAAAGGGGATTCACTGGGGACTTCCGCGGCCCTTTGCCAGAT **GCGC**CTTT  
CCACCCTTCTCACTCCAGTCACTCCCGAGGACTTGGGGCAGACTATCACACGCAACTGGGAGATCCTGGAAGACGGAGGAAAAACGAACAAGGGGACATG  
GCCCTCACTGCAGTGACA **GGGCTTTCCTTCAGTCAGTGG**CCACAATAAATTTAACCAAGGCTAAAGGAGATTAATTTCCAGCATAATCCAATTAAGATTCT  
AAAGTAATCTTTTGGAAAATGAAAAGT **GCGC**GACTAAAGAGGGGACTGGTTTTGATGACAGTGATTTATCGCCTCA **GCACAGCACGCA** **CGGGA** **CG**CTGTCTC  
TCCAAGCGATTTGACCAGAGCATCCCGTCTCGCCTCTGTCCAAACCTTCTCTTCTGAAAGACAGCCATCTATCACGCCAACCTGGGCAGGAGAGAATGTGC  
AAGGGGCTGGGGCGGCTTACAAGCACCACAGACCTTTAAGTGTATTAGATTATGGTCTCTTTTTCGACACCCATCCAGAGTAATTAGCACATATGTTCTAA  
ATAGATGATAGTTTTGTGAGCAATAAAGCAATTACCCATCGTTGGAGCTGACAGTTCTCCAACCTAACTCCAACCAGC

**cg04541368** (Blood 3%, saliva 8%, sperm 1%, cervix 66%)

**cg06668065** (Vaginal 56%, Sperm 4%, Blood 6%, Saliva 7%)

**cg15143788** (Vaginal 56%, Sperm 6%, Blood 14%, Saliva 19%)

Vaginal chr5 forward: TM: 66°C, Länge: 21 bp

Vaginal chr5 reverse: TM: 66°C, Länge: 19 bp

### VG\_7\_II cg18502142

AAGATGAAGTACGGGTGGTGGCTGGAGAGCTGGGACTGGAAGGTGGGGCTGGGGGAGACGGGTAAGCAGCTTGCTTTGGTGAGGAGCTCCCACGCTGAGA  
ACGGTGGGAGGAGGGAATGATGGGGAAACCTTTGTTTAATGAGGAAACCTAATTATT **GCGC**ATCTGGAAGTCTTAGTCC **CTACTACCAGACGAAGG** **CG**GGTAC  
CTGAGGGATGCAGT **GCGC**ATGCCGAGCCGTCGGATTTGCATGATAAGGCTCGCACGTGAGCCAACCTCCG **GCGC**AGCCAGGCTGTGCCGCGGC **CG**GCCGCC  
AATGGAATCTTGCTCCTACT **GCGC**CCTCCAGGTCACAT **TGACATCTCGGTTTCCCCACA**ATAGGCCCTTAAAAACCCACTTTAAAAATAAAAAAGTGTTTAGTATTG  
ATTCTCGCTAGACACGGAAGATGTCTGTAGGAACTGACACGGTTTTAGAACTACAACCTACATTACTACAAGCAAGGGTTAAAGTATTAGAAATTAAGAAAAA  
GTTAGAAGGCCGGAGAGAGGGGGCTGTTTAAAGAGCTCTGGCGGGAAGTCAAGGAATCCTGGGACTGCTGCCTTCGGAGCCCTGAG

**cg18502142** Vaginal 75% (19%, min bei 18%), Saliva 28% (14%, max bei 82%), Blood 14% (4%, max bei 21%), Semen 2% (1%)

**cg09803262** Vaginal 68% (15%), Saliva 32% (7%), Blood 27% (5%), Semen 2% (1%)

VG\_chr7\_II\_for: TM: 64°C, GC%: 60%, Länge: 20 bp

VG\_chr7\_II\_rev: TM: 62°C, GC%: 55%, Länge 20 bp

VG\_chr7\_II\_for\_alte: TM: 62°C, GC%: 50%, Länge 20 bp

### VG\_10\_I Cg26439963

GTCCGCCCTGGCTTGACAGGCGTCTGATCCCCACTCCCCGACCCTCCCGCAGGGAGCGAGTTCTCCGGCAACCCGTACAGCCACCCCCAGTACACGGCCTACAAC  
GAGGCTTGGAGATTCAGCAACCCCGCTTACTAAGTGAAGTACGCCACCTGGCTGGCCGGCGGCTCA **GCGC**GGCCGCGCGGCTTCTGGGCACGGTCCCCTCC  
GGCAGCCGACCTCTGGGGACCCGGCCGGCCAGGGGACAGGCTTGTAGTGACAGTACAGGCCCCGGGACCCCT **CG**AGGACGCCCCACCTCCTGCCT  
CCC **GTGCCCTCCCTGGTCCGCTC**GAAGGCTCT **GCGC**CGCCCTCGGATCCCTGGAGGGT **GCGC**AGCCGGGCGTCACCAGAT **CG**GGTCCCTCATGCCC  
CGTGAACGCAACTATTCTCCGGGCAACTGGCTCCACTGCCAGCCAAAGTCTCCAGTCCGGATCCCGCTGGACCCAGCC **AGGGGAGGTCTTTCTGTGCTT**  
TTCTTTCTTTTTGTTCTCTCTGTTGCTCTCACCCAGCCATTCTCTCTCTGTGTTAACTTCCAGTTCCCTTATTATTAGTGC **CG**CCCCCGGGGCTCCGCC  
CCTGCCGCTGCTGCCGCTGCTATGACCGCCACTAGTTACCGCGGGGACCACATCAAGCTTACAGCCGACAGCTTCGGCCTCCACATCGTCCCCGTCTGACCCCA  
CCCCGAGGGGAGGGAGGACC

**Cg26439963** (Blood 3%, saliva3%, sperm2%, cervix 60%)  
**cg25531836** (Vaginal 38%, Sperm 7,6%, Blood 9%, Saliva 7%)  
**cg04943368** (Vaginal 53%, Sperm 10%, Blood 14%, Saliva 14%)

**Vaginal chr10 forward** TM: 66°C, Länge: 19 bp

**Vaginal chr10I reverse** TM: 66°C, Länge: 24 bp

### VG\_chr14\_I cg09197895

AAGGATGTGCAAAATGTTCCGCTGCGAAGGTTCCGCGGTGGCGGGGACACTGCTCCGGCTCCGCTCCCGCCGCCGAGCGCTCGGATGGGGCCGCTCTGC  
ACTGCGTGGCCACAGGCGCGGCCCGGCTGCCACGGGCGCTTTGCAGCTGCTGCCCCCTGGCGGCCGCGGGCGGCTACTAGCGGGAAAGCGAAA CCGGCC  
CGGTCCATTCAAGCCCCGCTGCCTGGCGCTCTAGGGTCTTTGGGAACGGCGGACCTTTGCTCAACACTTTGCCTGCAAGATCCCCATTGGGGGAACC  
GAGGAGGAAGTTAAAGGAAGATGTGTGTTTTGAGCGCTGCTTTGTGCCAGGCTCATTTAGGTGTGGGACGTGTACTATCTGAATTAATACCCACAGGCCT  
GTGGGACAGTCACTGTACCATTGCGAAATTATGGATGAAGAAAGGAGGTACCAAGTGGTGTATCACCTGTCCATAGTGAGCTGTCCCTCAGGAGGGTGGCC  
GCCCCACGCGACCATTAGTGTCTCATTACACGTTCAATACCAAGAGCACTGCTAGCACTGGGGGCTGGCTCACTCTGC

**cg08727193** Vaginal 46% (21%, min: 5%), Saliva 4% (2%, max: 8%), Blood 5% (2%, max: 7%), Semen 3% (1%)

**cg09197895** Vaginal 30% (15%, min: 1%, max: 49%), Saliva 1% (1%, max: 2%), Blood 1% (1%, max: 2%), Semen 0,4% (0,3%, max: 1%)

**cg18985581** kein Vaginal?, Saliva 1% (1%), Blood 1% (1%), Semen 0,3% (0,2%)

**cg22796749** Vaginal 45% (18%), Saliva 1% (1%), Blood 2% (1%), Semen 1% (0,4%)

**VG\_chr14\_I\_for** TM: 64°C, Länge: 21 bp

**VG\_chr14\_I\_rev** TM: 64°C, Länge: 21 bp

VG\_chr14\_I\_for\_alter:

ACTTTGCCTGCAAGATCCCC

**VG\_chr14\_I\_rev\_alter**

ACAGGCCTGGTGGGTATTA

### VG\_17\_I cg03656099

CGTGTGTGCGAGCCCGTAGTGTGATTTGGCTTTGTGTACCTGCAGCCTTGCCTGTGAAGTGCAGTCTCTGTTCCGCTGCTCGGGTGGGAGTCTGTTAA  
CTT**GCGC**AAGCCCGGGCGGGTGTGCATGCTTGGGCTGGTCCGACACTGTGGCACTGCTTAGCCCTGTGTGGGGCTGTCTAGGCCTGTCTAGGGATAATT  
CCT**CGA**TGAAGCTTTTGGAGGACAGACCCCGTCCGCTTTCCGCGAGGCCCTCCACCGGCTCAGCTCGGGGCGTCCCATCCAGCGGGTGGGTACCAAGTG  
GACGCTCCCCGGTCTTCCCTCTCGGCCAGCACCCGCTGACCTCGGGGTGCCACCGACACGCTGGAAGAGCCACGGCCTGACTTA**GCGC**CGCCCCCTTGGT  
CCCGCAGATCACACAGTGAAGATCGACAACAACCCGTTTCCAAAGGGCTTCCGGGACACCGGGAACCGCCGCGGGAGAAAAGGTGAGAGCCGAGGACA  
GCAGCCCTGTGGCGGGTCCCGCGGGAGCAGCAGCAGGAGGGATGGAGGGATGGGCTCCCC**CTGACCTGGTTCATCCGCTC**ATCCCCAGGAAGCAGCTG  
ACGCTGCCGTCTACGCTTGTACGAGGAGCACTGCAAACCCGA**GCGC**GAT**GCGC**GGAGTCAGAC**GCCTCGTCTGCGACCCCTC**CCCC**GCGC**GGGAACAC  
CCACCTCCCCGG**GCGCA****GCGC**CCAGTCCGCT**GCGC**CTGCACCGGGCCGAGGTGAGGGTGGACCGGAGGAGGGACAGGAGGTGGCGGGCGGGGGTCTCT  
CAGGTCGCT**TGGGCTGGTCTTTGCTGAG**CCACCCGTAACCTGAAAGGCCAGGAAGGAAACGTCGCGAGTGTCTGGGATGGGGTTCCGTCCCGGGACTCCC  
CTACGAGGGCGGTCCCCGGTAGCCAGAAGATCCGGC**G**GACTCCGAGCTGGCCCTTGG**GCGC**CGTGTAATTCTATAGCT**TAGGGTTTCTCTCCAGGGT**  
GGGTTCTTCCACTGTAATCTGGGGTCTGGATTAGGTGACCTGCAGCTGCCTTTGCC**G**ACTCCAGCAGCTCCTCCGACTCGGCCTCCCCGAGAGCAGCCCT  
TCCGAGTGTCCCTGATCCTGCTGCTCGGCCTCCGCCAGGCCCTGTAATCC**GCGC**GCCCTCTCCCCGAGCTGAGGAGAAGTCTG**GCGC**CGCGGACAGCGAC  
CCGGAGCCTGAGCGTTGAGCAGGAGCGTGGGG**GCGC**CGTAGGCCGAGCCCGGCTCCAGACA**GCGC**CAGCCCCACTCGCTTGACCGAACCCGA**GCG**  
**G**CCCCGGAGCGCGTAGTCCCAGAGGGGCAAGGAGCCGCGGAGAGCGCGGGGACGGCCGTTCCGGCTGAGGAGCCTGGAGAAGGA**GCGC**GCCGA  
AGCTCGGAGGAAGGACGAGGG**GCGC**AAGGAGGCGCGGAGGGCAAGGAGCAGGGCCTG**GCGC**CGCT

**cg03656099** (Vaginal 52% +-13, Saliva 3% +-2, Blood 3%+-1, Semen 1 +-1)

**cg22675937** (Vaginal 27%, Saliva 10%, Blood 16%, Semen 2)

**cg12999453** (Vaginal 58%, Saliva 8%, Blood 8%, Semen 3)

**cg21201099** (Vaginal 48%, Saliva 18%, Blood 15%, Semen 11)

Vaginal c17\_l\_cut1+2\_for Tm 64°C, 20 bp

Vaginal c17\_l\_cut1+2\_rev Tm 66°C, 19 bp

Vaginal\_chr17\_cut2\_for Tm 62, 20 bp

Vaginal\_chr17\_cut2\_rev Tm 64, 20 bp

### VG\_chr22\_l cg14703829

GGACCGCCGGCTCCGTGGGCTCCAAGAGGCCGGGGCCGGCCCCGCGCTCGGGCCCTGGGCGGCGAGGGCGCAGCGAGGGGCTGTCGCCTCCTCGGGCA  
GCCCGGGGGGCCGGCGGTTGGGTGCGGGGCTCGGGGGCTGCCGTGTCGACCGTATGCGCCGATTGTCGCTGGGCGTCCGTTTCTTGTCTGGGGCTGG  
GCGCGGCCTCGGAGCTGGCGGCGGTGGTGAAGGCGCACGCGAGCTGCAGCGGCGCTGTGCTTGCCTGGATCCAGGACACCTTAGGCTTGGTGGCGGGG  
TCAGTGGCGCGGTTTCTGCGCTCGGGCGATGGCGACAGCGACAGGCCCAATCTCGCCCGGGCCCGGGCCGGCCGGGCTCGCTCGGGCCACGCGC  
GCGTACAGAGCCCTCCGGGCCCTCCACGCTGGACGCCGACCGCTCGCTGTCGGAGGACGCGGGGAGGGGTATCGCCTCCTCGGCGGAGGCTGGCGTGGT  
AAGGGCACAGGGGAAGCGCGCGCTCGGCAGGGACAGTGGGGACTTCGGGCTCCCGCTCCTCGCTGGTGCCTCTGGCAAGGGAAGAGCAG

cg14703829 Vaginal 5% (1%), Saliva 5% (2%), Blood 7% (2%), Semen 87% (3%)

cg22091609 Vaginal 57% (16%), Saliva 30% (8%), Blood 33% (4%), Semen 2% (1%)

VG\_chr22\_l\_for TM: 66°C, Länge: 21 bp

VG\_chr22\_l\_rev TM: 64°C, Länge: 19 bp

VG\_chr22\_l\_rev\_alter TM: 66°C, Länge: 19 bp

### VG\_chr7\_l Cg09765089 (Lin 2016)

TGTAAATGGAAAACAAATGCCGGGGTTGGTAACAAATGGGATCAAAGCAGCCATTCCAATCTGGCTCCCCGAGGGAAAGGAGCGGGCGTGGCCCTGTAG  
GATTAGGGCGCCTTGACCTCCCAAGACCCAGGTGAGGCCGAGGGTCCCCGCGCGCCAGCCTGCGCGTGGCTGTGGCTGCGGCTGCGGCGG  
GGCCTCGCTCTCGCCGGCTCAGGTCCCGCTCCCTCGCGAGGCGCGCGGTGTGGCCCGGGCTGGCAAGCCGAGGAACAGCGAGCCCCCGGACGC  
TGACTGCAGGACGTCCAGTTGTGCCCGGGTCTCCGTCCTCCCCGTACGGGGCTCGTACCCCCGGGCTGGGTCTGACCCACAGGGCGCTGAGGCCTTGT  
AGCTGAAGTCGGAAGGCCTCGTTGCGAGCGCGGCACAGGTTGCTGGTAGCTTGGACTCTGGAGGCTTGGCCTTCTTAAGCCGATGGCGG

Cg09765089 (Vaginal 40%, Sperm 1%, Blood 5%, Saliva 5%)

cg22158650 (Vaginal 33%, Sperm 1%, Blood 1%, Saliva 1%)

cg02456087 (Vaginal keine daten???, Sperm 1%, Blood 11%, Saliva 1%)

#### Primer Paar 1 (3 Schnittstellen, Blast Prima)

VG\_chr7\_l\_A\_for (60°C)

TGTAGGATTAGGGGCGCTTC

VG\_chr7\_l\_A\_rev (56°C)

AACCTGAAGCCGCGAG

VG\_c7\_IB.2\_for

CTGTAGGATTAGGGGCGCTTC

VG\_c7\_IB.2\_rev FAM (zweiter umrandeter Primer)

AACCTGAAGCCGCGAGAGC

#### Primer Paar 2 (allerdings auch mögliche andere Produkte)

VG\_chr7\_l\_B\_for (60°C)

CTGCAGGACGTCCCAGTTT

VG\_chr7\_l\_B\_rev (62°C)

GCCTTCCGACTTCAGCTACA

Produkt: 117bp

VG\_c7\_IB.2\_for (dritter umrandeter Primer)

GACTGCAGGACGTCCCAGTTT

VG\_c7\_IB.2\_rev FAM (vierter umrandeter Primer)

GGCCTCCGACTTCAGCTACA

VG\_chr7\_I\_C\_forw

TGTGGCTGCGGTGGCGACT

VG\_chr7\_I\_C\_forw

GTACGGGGAGGGACGGAGA

**VG\_chr2\_II cg14991487 (Park 2014, Forat 2016) not tested**

AGAACAGCTCCCTCGG GCGC TAGGGGCCGCCCGAGGGCCCGCTGCCTCGGGCGACACCGGCTG GCGC CCCC GCGGCCGCTCCGTGTGCCCTGGACTCG  
CCGCCCGCGGCTCGGAAGCTGAGAGTCAGCGACGGGGCCCGACTGCGGGACCGAGGGCTGCAAGAAGAAGCGAACAAATAGTCCCA GCGC CTCCTCTGG  
ATGCGGTGCGTCTGTGGTCTGGCAGCCGCTGGCGGGCCAGGCCAGGTGCGGGCCGGCCGAGCCGGGCACATGGACCTGGGCTGCGGGCTCTAATTGC  
G GCGC TTATGTTGATGATTTTTTTTTTAAATCA CAGCAGCCCCAGTTTAGCG GACTGATTACTCC CG GTATTGGTAAATATGATCA CG TGGGCCG CGC GACCAA  
TGGTGGAGGCTGCAGCCTCGAACTAGTCGGTGGCTCGGGCCCGGGCGGGAGCTGCTCGGGCCGGACAGT STAATGTTGGGTGGGAGTGGC GGACGCCT  
CAAAATGTCTCCAGTGGCACCTCAGCAACTACTACGTGGACTCGCTTATAGCCATGAGGGCGACGAGGTGTTCCGCG GCGC GCTTCGG

cg14991487 (Vaginal 25%, Blood 10%, Semen 3%, Saliva 8%)

cg09968620 (Vaginal 20%, Blood 1%, Semen 1%, Saliva 8%)

cg09578028 (Vaginal 31%, Blood 14%, Semen 1%, Saliva 13%)

VA\_chr2\_II\_Forw

CAGCAGCCCCAGTTTAGCG

VA\_chr2\_II\_rev

CGCACTCCACCCAACATTAC

PCR Produkt\_ 166bp

Primer Blast prima aber Werte überzeugen nicht so sehr

**VG\_chr18\_I Cg25416153 Lin 2016 not tested**

Chr.18

GAAGGACAATGTAGATGGAAGACCCATGAGCAATATACTGAATCAATTAAGAGACAGGGCATGACATTGTTGAGGCAGCTGTTAATAATAATAATAAAATTA  
GTTGCTATTATTAAGCCTGTCTTAACTGCAGAGAACAAGACAGACACAGGGGATGACCTACAAGCTTCAAGACTCAGAGAATTCAACAACCTTAAGA AATACC  
TCCTGGGCAGAAATGCTGTATTTGGAAGGTTGGAAGACTCTGAGCTTGAGAACCTGAAGAAGGCGGAACTGTTGGGTTGCCGGCAGCCGGGAAGGTTTGCC  
TGACTCTTTGGCTGGCGGGAAGAAATGGGGGAAGGAGAAGGGCG GCGC ACTGGGCTGCTGGAAGCTGGGTTCTTCCGAAGGGACGTTACGTACCGT  
CCGTAATATCACCCAAGCCCTAGCATTCTCAGGAAAGT CG CTTATGAAGCTATGACTCAAGTGCCGAGTGCTTGGGCCACGCTTCGCAGCGTGAATCAGC  
GGCGGG GCGC GGCGGCACGAGGAAGCTGTGCAAAGCCGAAGGGGCAGCCTCAGACCAGGAACCTTACC CG TCTGGCGGG TCTATGGCCGAGTCACCGT GG  
CG GCGC GGCAGCTCGGGCCCGTCTTCCGGGCGGGCCGGGGTGGTACCTCTGCAAAGCAGGGTTTCTGGGCCGTGATCGAGTCTTGCTCACGGGCATGT  
GGAAACGCCTGCT GCGC TCCCTGCCTGAAAATCCACTCTTGAAAATGCACTCCCTTAGGTTAAAACGCTGCCTTTCTAAGGA

VA\_chr18\_I\_forw

AATACCTCTGGGCAGAATGC

VA\_chr18\_I\_rev

ACGGTGACTCGGCCATAAGA

Cg25416153 Vaginal 36%, Saliva 4%, Blood 5%, Semen 1%

cg18088442 (Vaginal 34%, Saliva 10%, Blood 11%, Semen 7%)

cg21691166 Vaginal 31%, Saliva 9%, Blood 15%, Semen 8%

**VG\_chr17\_II cg27215100 not tested**

Chromosom 17; CYBC1

TGCAGCCCCAGACACCATCAGCCAGTCTCACCTGGTCTCTGTGGTGGGCACGTCCTGATCCCCAGAGACCCCGTTTCTGTGTAAGGAAGGCCCTTTTC CG  
TTACAGCGACACCGACT GCGC GGGGGCTGTTCCCGCTCAGACTCAGAGCTACAGCTGCATCACCACTGCCCGTCTGTCTGAAACCTTATGCTCTGAG  
GCCGCTAGCCCCAGCAGCCTTAAGCTTCTAGCATCTGTGGGCACCCCTCTCCCTGTGCTGGCCTCACCAAGAAAGGAACTGAAAGTCCCATCATGGCTTC



CGGCCGTACTGGCTCTCGCACTGGCATGGACCAACGATCTCAGCTCTCTCTGCCCTCTCCACCTGCTGAAAGTTCAGACTGCA CAGTAGAGGGTCCCAAAG  
CGGCCAGAACCAGAGTACCAAAGGGGCTAATCTTCCACAGCGGAGTTCGCCA GGGCGCAGCAGCCCTGCCACTTACCAGTACGCTCCCAACTGGCCC  
CAGGGACCCCGTTCTGGTAGTTTCTCAGGGCTTTCCTGTGAAGTCAAATCAAATTTCTGACATTAAGTAGGGGGTTTCAG

cg27215100 Vaginal 71% (24%, min bei 12%), Saliva 29% (18%, max bei 97%), Blood 3% (2%), Semen 1% (1%);  
cg09419005 Vaginal 59% (10%), Saliva 42% (11%), Blood 11% (8%), Semen 7% (1%)  
cg27381584 Vaginal 66% (16%), Saliva 38% (12%), Blood 17% (7%), Semen 6% (1%)  
cg08040471 Vaginal 65% (20%), Saliva 32% (14%), Blood 12% (5%), Semen 3% (1%)

Produktlänge: 144 bp, keine Nebenprodukte  
VG\_chr17\_II\_A\_for TM: 64°C, Länge: 20 bp  
CAGTAGAGGGTCCCAAAGCG

VG\_chr17\_II\_A\_rev TM: 62°C, Länge: 20 bp  
AAACTACCAGAACGGGGTCC

Produktlänge: 328 bp, keine Nebenprodukte  
VG\_chr17\_II\_B\_for TM: 62°C, Länge: 20 bp  
GGAAGGCCCTTTCCGTTCA

VG\_chr17\_II\_B\_rev TM: 62°C, Länge: 20 bp  
TTTGGGACCCCTACTGTGC

VG\_chr17\_II\_B\_for + VG\_chr17\_II\_A\_rev 455 bp lang und ein Nebenprodukt über 1000 bp  
product length = 455

Nebenprodukte!!!!!!!!!!!!

#### VG\_chr12\_I Cg26079753 Lee 2015 not tested

(Chromosom 12)

GCCGGCAGCTCTGGTCTCTCCGGAGGGCTGCTGTGCCCCGCGAAGGACGAGATGACCCTGCTGGCCGGAGCTGTGGAGTTGCCTCGCCGAGACCCGGA  
TCTGTCCAGTCGCTCGTCCCTGAGCACCTAGGCGTTGGGGGACGCCCTGTGAGTGTGAGAGACCTCCAAGAGCGCTGGAGTCTGAGGCGCTGGCCGGGC  
TTCGTGAATTAGACCTTTATCCTAAGCTCCTTCCCTCTGC GGGCACTCGGTGTCCCCACAGCAGCTGACCGCCCTCCTGCCCGGCTTCTCATCGCTAGAGGCTCT  
GCCCTGGAGGCTCTAAGACCTGTGCCGCCCTGGAGCCTGGCATAGGAGCCAAGAACTGGGCCTCGACAAGACCAAACAGCTGGACCTTTAGCCAATC  
TAAACAGCCCGTTGCCAGCAGGTGATTTCTTCTTCCAGCCAGGCCACTTAGGAGGCAAGTCTTCACTTTGTCAGTTTACCTGGC

cg26079753 Vaginal 27% (21%, min 7%), Saliva 7% (1%, max: 10%), Blood 9% (2%, max: 14%), Semen 4% (1%, max: 7%)  
cg19188855 Vaginal 31% (15%, min: 17%), Saliva 20% (2%, max: 26%), Blood 24% (7%, max: 40%), Semen 4% (1%, max: 5%)  
cg01524278 Vaginal 34% (15%), Saliva 22% (3%), Blood 28% (7%), Semen 4% (1%)

Produktlänge 206 bp

VG\_chr12\_I\_for TM:60°C (NCBI), TM:64 (Oligoanalyser), GC%=60%, Länge:20 bp  
GATCTGTCCAGTCGCTCGTC

VG\_chr12\_I\_rev TM:60°C (NCBI), TM:64 (Oligoanalyser), GC%=60%, Länge: 20 bp  
CCTCTAGCGATGAGAAGCCG

keine anderen Produkte

#### VG\_chr17\_III Cg01774894 Park 2014 not tested

LOC404266 (HOXB6)

CCTGCGGTACCCGGGCCAGGACCCCTCCCTAGTCGACCCTCGAACACAGACTCCAGCCAGTACCGGGATGCCCTCTATTCTGCCGGCTCCCTTCCCCGTTT  
CGCATCTCTCAAGCGCCCTCCAGATTCCCTCTAGTCTCTAGGCTGTGCCGTCTGTCTAGACTCTAGATGGGGGAGGGAGGAGCAGTTTGAATCCCAC  
CTGAGCCTGGGGGAGGGGCTGGTCAAGTGTCTCTTCTAGTGCATCTTGTCTTCCCTCCCTTTCCATCCATCTTGTCCACCCCGTCCATCCCCCAAC  
CCAATGATAAATCCAGGCCGTTAATCCGTAATGACGTAGATCGATCCATAGTCCACATTAACGGCTCCTCACTTCGAGTCCGGCTAATGGACATCAGTTGGGAC  
TTAAGGCCAACAAATAATCCAACCTGAGACCCCGCGCCTGTTTCTCCCTCTCTGCTCCGCTGCTCCCTCTCTTCTTCTTCCCTTATTCTCCTCCCTCTGAC  
TACCACCCCTTCTGGTGCCTCATCTTGGCCAGCTCCCAACCCACAGGGAAACACAGTCCAGACAGACTC

cg01774894 (Vaginal 38%, Saliva 9%, Blood 7%, Semen 4%) (Chromosom 17)  
cg26279336 (Vaginal 40% (16%), Saliva 14% (4%), Blood 9% (2%), Semen 4% (1%))

**cg11352083** (Vaginal 28% (12%), Saliva 11% (2%), Blood 14% (2%), Semen 8% (1%))

Produktlänge: 312

**VG\_chr17\_III\_for** TM:60°C (NCBI), TM: 62°C (Oligoanalyser), GC%=55%, Länge:20 bp  
TCTATTCTGCCGGCTCCCTT

**VG\_chr17\_III\_rev** TM:60°C (NCBI), TM: 64°C (Oligoanalyser), GC%=52%, Länge: 21 bp  
AGTGAGGAGCCGTTAATGTGG

Keine anderen Produkte

### **Cg03874199 Forat 2016 not tested**

Vaginal 22%, Saliva 11%, Blood 14%, Semen 5%

### **cg12020396 not tested**

Chromosom 19, EPS8L1

GTAAGGGGACCCTGGCGTGGGATCTGAACCCCTCCCGATCTCTTCAAATGTCCCGCTCTCCCAGGCTCTCCCCTCCGCCACTTGCCAGGGCTGACCTCA  
CCGCCATCTTAACCGGGTGTCCACCTCTCTGCCTGCCTGGTGTGGCCCGCTCCCATCGCC**GCGC**CCGTCTGCTCCCCTCAGAGGGCTTGCTGACGCTGC  
GGGCCAAGCCGCTCGGAGGCCGAGTACACCGACGTGCTGCAGAAGATCAAGTACGCCTTCAGCCTGCTGGTGAGGAC**GCGC**CCGCCCTGGGCCGGG**GCG**  
**CG**GGCACGCAACCTGTCCCGTCCCGCACCCACGCCAACCCCTCCCTCCCGAGCCCGGCT**GCGC**GGCAACATCGCCGACCCCTCTCTCCGGA  
GCTGTTGACTTCTTTTCGGGCTCTGCAGATGGTACCCGCCCCAGGCCCTCGGCCCCCTGCAGCGGGAGGAATCGGGTTCGACTTGTAAGGTGT  
GGCGGCACAGCCTGCCCTCTGCTCCCTGACAGATTGTAACACGTGGGGGGGCCGAGTTCGCGAGCAGTGTGCGGGC

**cg12020396** Vaginal 49% (20%, min: 2%), Saliva 3% (2%, max:7%), Blood 3% (2%, max: 8%), Semen 1% (1%);

### **cg20166714 not tested**

Chromosom 12

AAGTCACTTTCCAGAAAGATTATTCGAATAAAGGAACGCTGGCGGCCAGGTGGGATGGAGAGGGTAAGGCACTGCAGGCCATGTGAGTCCCTTCCCGCC  
CCCGACTCTAGTTCCAAGAGGTTCCGGAGCTGGTG**GCGC**GCTTCGACGGCCTGGCCGAGACGCAGGCG**GCGC**TGAGGCTCAGGGAG**GCGC**GAGCAGCTCGCG  
GAGCTGGAGG**GCGC**GAG**GCGC**GGGTGCAGCAGCTGCGGGACGCTGGCCGGACGAGGTGCTGCACAGGGCCAGCGGGCAGCTGCAGGA**GCGC**  
TGGAGGCTGCCAGGGAGCGTACGCTGCAGTGGGTA**CG**ACCCGCCCTAGGTGGGG**GCGC**TCCGGACCCAGGCTTCCACAGCCGGGGAGGAACGCCA  
GGGCTGATGAGGACCGATGGGGCAATGCTTACCCAGAGGGTCCGCTGACTAAGGAGGGGAATCTCAGGCATCACCGAGCCGTTTCGGGCATGAGGCC**CG**  
CCCATCCGCTGCACAAGGCTCTGCACCCACTCCCGAGAGCACCTGACTGCTGACTGGCAGAGGTGGATGGGAAGAATGCCGG**GCGC**GGT

**cg20166714** Vaginal 42% (21%, min: 0,4%), Saliva 1% (1%, max: 4%), Blood 2% (1%, max: 3%), Semen 1% (0,5%)

**cg19897003** Vaginal 46% (21%), Saliva 7% (2%), Blood 7% (1%), Semen 1% (1%)

**cg03669590** Vaginal 41% (15%), Saliva 13% (2%), Blood 16% (3%), Semen 5% (1%)

**cg27127017** Vaginal 36% (19%, min: 0,5%), Saliva 2% (1%, max: 4%), Blood 2% (1%, max: 3%), Semen 1% (1%)

### **cg20090283 not tested**

Vaginal 53% (min. 8%), Saliva 6% (max. 11%), blood 4% (max. 9%), semen 1% (20%, 2%, 2%, 1%)

### **cg22052566 not tested**

vaginal 55% (min. 8%), saliva 6% (max. 16%), blood 6% (max. 9%), semen 2% (max. 17%) (19%, 4%, 2%, 3%)

## Saliva Marker

SA-I **cg09652652** Lin et al. 2016

**GGCG**TAGGAGGCGGGGGGCTCCCTGGGCC**CG**GGGGCCGGGCCCGCCTCTGCTGCTGGGCA**GCGC**CTCCGACATGAAGGCTGAGCTGTGCAACTTA  
TTAGCGACTGGGCGAGCTCAGCTTCGGCAACGACGT**GCGC**ACCCTGCAGGCCGACTTGCGGGTGAC**GCGC**CTGCTGTGAGGCGACAGCACGGGCGAGCGAGA  
GCTCCATCGAGGGCGGGGGCCCTGACGCCACTCCGCCACCGCGGGGACTCGTCCCGCAGGCCGACG**GCGC**CAGTGCAGACGAGCCCC**ACTCGGGCTGAG**  
**CTCCTC****GCGC**GTCGC**GCGC**TCCACCGTGGCTACCCATCCGTGGTCCCGACAACCTCCCTGTCCCTTGCCCGCCCCAGGAAGGGGGAAATGGGGCATTGG

GGCCCAGACCTACACTTGGAGCCCAGGTCCAGCGTTCCCCGACCGCTTCCCCTACCTCCC GCCCCGCTCCC GCCCAGCACATTTTGGCTCTGTTGCGCGTG  
GGGATGCGGGGAGATTTGAGAGGGGAAAACCCCGCCAGGAGGGAGAGAGAGGCACCCCTCTGGGATGCGGGTGAGGGAAGGTTGGCT

cg09652652 (Blood 2%, Saliva 34% (max 80%), Vaginal 2%, Semen 1%)

cg16578537 (Blood 3%, Saliva 14%, Vaginal 2%, Semen 2%)

cg00352417 (Blood 11%, Saliva 33%, Vaginal 14%, Semen 2%)

cg10623840 (Blood 8%, Saliva 22%, Vaginal 9%, Semen 5%)

SA-I for: TM: 60°C, Länge: 18 bp

SA-I rev: TM: 58°C, Länge: 20 bp

### SA-II cg09107912 Lin et al. 2016

CCTTCCTAGAGCTTAGGTCACTGTAGCCTCCAGGGGCGCGTCCGAGTCCATCTGGAGGGCCGCGAGGCTTCCAGGCTGGAAGGAGGAATAGGGAGAAGGAGG  
AATAGGGAGACCTGGGGCAGTGTACAATTACAGAAAAGGGAGAGGCGAGGTCCTGAGTCTTGGCCTGGGCAACAAGGCACACTGAAAACCTGGGTTCT  
TTTCGACCCGCATCGTGGCGGCCCTAGAAATGACAGCCAGACGGAGCAGGGTCTAAGGACGCTGAAAACCCCTGACGTGGCGCGGCCGGGTGCGGCTAGGG  
ACGTGGAAGGACTGGCTAGCCACAGGAACTACAGCGCTGCGGACCGGGTGAGGGGTCCCGGCCGAGTCCCCA|CTTG|GGCGCGCAGAGGTGTTTCTGTAAG  
GGGACAAAGGGCACTCCTCGCGCGATGGGCGACTTCCCCAGCCAGAAAATGAGAGGGTTAGACGAGGTGTTTAACTTCTCAGCCACTTGGCCCGGCACAG  
CGACCGCCCCAAGTTCAGAACCCTAAGTCAGTCCGGGGCGCTCCGGCCCTTCGTCGCCGCCCCGCCCCGCTCCAGCCCGGGCCCCGCGCC

cg08397344 (Blood 30%, Saliva 40%, Vaginal 20%, Sperm 1%)

cg09375620 (Blood 1%, Saliva 16%, Vaginal 1%, Sperm 1%)

cg09107912 (Blood 3%, Saliva 22%, Vaginal 3%, Sperm 1%)

SA-II For: TM: 64°C, Länge: 20 bp

SA-II Rev: TM: 64°C, Länge: 21 bp

SA\_II\_cut2\_forw: TM: 64°C, Länge: 20 bp

SA\_II\_cut2\_rev: TM: 58°C, Länge: 17 bp

SA\_II\_cut4\_forw: TM: 62°C, Länge: 20 bp

SA-II-for-alter: TM: 64°C, Länge: 18 bp

More primer design on SA-II

CCTTCCTAGAGCTTAGGTCACTGTAGCCTCCAGGGGCGCGTCCGAGTCCATCTGGAGGGCCGCGAGGCTTCCAGGCTGGAAGGAGGAA  
TAGGGAGAAGGAGGAATAGGGAGACCTGGGGCAGTGTACAATTACAGAAAAGGGAGAGGCGAGGTCCTGAGTCTTGGCCTGGG  
CAACAAGGCACACTGAAAACCTGGGTTCTTTTCGACCCGCATCGTGGCGGCCCTAGAAATGACAGCCAGACGGAGCAGGGTCTAAGG  
ACGCTGAAAACCCCTGACGTGGCGCGGCCGGGTGCGGCTAGGGACGTGGAAGGACTGGCTAGCCACAGGAACTACAGCGCTGCGGA  
CCGGGTGAGGGGTCCCGGCCGAGTCCCCA|CTTG|GGCGCGCAGAGGTGTTTCTGTAAGGGGACA|AAGGGCAC|TCTCGCGCGATGGG  
CGACTTCCCCAGCCAGAAAATGAGAGGGTTAGACGAGGGGAGGAACTTCTCAGCCACTTGGCCCGGCACAGCGACCGCCCAAGTT  
CAGAACC|GCTAAGTC|AGTCCGGGGCGCTCCGGCCCTTCGTCGCCGCCCCGCCCCGCTCCAGCCCGGGCCCCGCGCC

SA II cut 4 148 for, 66°C 22nt

GAGGTGTTTCTGTAAGGGGACA

SA II cut 4 148 rev 66°C 22nt

GACTTAGCGGTTCTGAACTTGG

Produkt: 148bp

SA II cut 4 148 for, 66°C 22nt

GAGGTGTTTCTGTAAGGGGACA

SA II cut 4 159 rev

CGCCCCGGACT GACTTAGC

Produkt: 159bp

SA II cut 4 148 for, 66°C 22nt

GAGGTGTTTCTGTAAGGGGACA

SA II cut 4 196 rev, Tm 68 °C 18nt

CTGGAGGCGGGCGGGGCG

Produkt: 196bp

SA-IV cg26107890 (Park 2014)

CCTGGGTACAGGCAGTTTCGGATTGGCTGCAGATCCCCGTCTCCGTGAGGCCGCGTCTGGCGAGGTACAGGTGCTGAGAGGCGCTGGGCTGTCCAGAGGCGGC
GCGCGAGGCCGGGTGCGAGGTCTTGCCTGCGCGCCCGCCACTTCTTTGCTGAGGAGCCTCGCGCAGTCTCCGGGGCCTACCACTTCCCCGACGCCCTTC
GGGCGTCGTGTCGGGTCCTTCCAGAAAGCGGCCTCTCCTTTCCCTTTCTCGCAGAGCCGCTCTTCTCGCGCCTCCGAGCCCCACCTCCTAGCTCCGTCGG
GAGCCCTTCTCTCGCGTGGCTATTCTCGGTTGCGCCAGCCTCTCCATTGCTCATTGCAGAAAGGGCTGTCTGGCTGGTCTCGGTCGCTGTTCCAGGGGT
GGGGACCCAGAAGAGA GCGCCGCGGAAGCCCCCGCGCGCAGCCGAGCCCGAGCCCGAGCCCGCAGCCCTGCAGCCCCAGCATCATTTTTAGA
AATCTCGTTTCTAAGTTAGTCAACAGTGCAACCCGACGCCACAGGGAGGGGTATGACTTCCCGACTCCCTCTTAATTTCA

cg26107890 Vaginal 6%, Saliva 33%, Blood 3%, Semen 1%

cg12788878 Vaginal 1%, Saliva 25%, Blood 1%, Semen 1%

cg26125625 Vaginal 1%, Saliva 26%, Blood 1%, Semen 1%

SA IV Forward: TM: 64°C, Länge: 20 bp

SA IV Reverse: TM: 64°C, Länge: 20 bp

SA IV\_rev\_cut2\_3: TM: 64°C, Länge: 19 bp

SA\_chr16\_I cg10096948 not tested

ZDHC1 (TPPP3)

CAGGGCA GCTGGGTGGCTACCTACT ATACAGGGACCTCTCCCCGCCCGGTCCACTGGCCAGGGTTCGGGCTTCTGGATGGCCCGTGGCCCTGCCATTAA
GAAAGTAAGCGCGACGTC CGCAAAGCATAAAAAAGTTTATTGGAGCATCACAGCCGGTGGG GCGGGTATTGCTGAGTCGTGGGGAGGGAGGCCGATCCC
GCCGGCCGTAGGGGCCCTAAAGTGCACTCGGTGCGGCAAGGATGGGGTGTGCATAGAGAGTCAGGCCGGCCGCTCTAACTCGGCCCTCGGCCTCTCGGC
CCAGCTAAGCCAGACCAGCCTCCCGGCCGCCG GCGCCCTGGGCTCGCCGCTGCTCGGGCTCACGAAAACGGCGG GCGCACGCGCCTGCCGCGCAGCGTGG
GCTGTCCGCCCGGCCCGCGGGGCGGCAGAGCG GCGCTGCCAGGCGCGTCT GCGC CACTGGAATCTCGTCCACGGACTCTGCCGACGCCGAGTGGTAGG
CGCCGGCAGGGCCAGCGCGTGCACAGGGTGGCGTCCGCGAATCCGTGACGAGCTGGAGCGGCGGCTGGGGGCCCTAGGCCCT GCGCA

cg10096948 Vaginal 21% (8%), Saliva 53% (12%), Blood 19% (4%), Semen 3% (1%); Chromosom 16

cg01755541 Vaginal 30% (7%), Saliva 51% (13%), Blood 37% (6%), Semen 4% (1%)

cg10298187 Vaginal 21% (5%), Saliva 46% (13%), Blood 25% (6%), Semen 4% (1%)

Produktlänge: 178 bp, keine Nebenprodukte

SA\_chr16\_I\_for TM: 62°C, Länge: 19 bp

GCCTGGGTGGCTACCTACT

SA\_chr16\_I\_rev TM: 64°C, Länge: 20 bp

CACGACTCAGCAATACCCGC

SA\_chr1\_I cg06936779 not tested

ACAGGCCGTGGTTAGGAAGGACGGAGAAGGGGCGT TCGCTCCTTTGGGACTTTTCA TCCCTCGTTTTTTTTTTCAGATGTGGCTTGGTCTGG GCGCAAGGTCCCA
GCAGCCAGCTTAAGCTTACTCTTGTGAAAGGGGAAAGTATCCCCTGTGGAAAGCGGTTAACTTGTGGAGGGGGTCCGGGACGTGAGTTCTTCCCATGCC
AGGCGAATGGTGTGGCCTTGAGCTGGTCCAGGAGCCGGCTCGACGTGCTGAGGGAGGCCCGGAGGGGGCGGGGAGGTGGCCACAGAACGCGGGTCT
GTAAGAGACGTTGGGAAGATT CGATTCCGAGAAGAGGAAGAACCAGGATTGAAAGAGAGCCAGGCCGCTGAGGGGGAGGGGGCTGCTAAGATGGCGTCCG

CCTCTCCGGGCCGTCGTCTTCGGTCGGTTTTTCATCCTTTGATCCCGGGTCCCTTCTGTACCTTGTCTCAGGTAAGCCCGGAGGGCGTGGGTAGGGAGCT  
GGTGAGGAATATGCGATGGGAGGAAGAGCGAGACCTAAGAGGGTACCTGTAGCTGGGAATGTCTACGTGTTACCGTAAGTGGGCGCG

cg06936779 Vaginal 20% (5%), Saliva 52% (10%), Blood 25% (5%), Semen 1% (1%)

cg02491717 Vaginal 8% (5%), Saliva 7% (5%), Blood 8% (3%), Semen 4% (1%)

Produktlänge: 527 bp, keine Nebenprodukte

SA\_chr1\_1\_for TM: 64°C, Länge: 22 bp

TCGCTCCTTTGGGACTTTTCAT

SA\_chr1\_1\_rev TM: 64°C, Länge: 21 bp

ACAGGTACCCTTAGGTCTC

SA\_chr17\_1 cg15825321 not tested

GCGGGGGCCACAGCGCGGGGACTCAGGAGCGGCCGAGGGGCCGCTGCTCGCGCGTGCCTCGCCCCGAGGCCCGGAGCGCTCAGTCCCCGGCGCGCC  
GGAGGAGCGCCCGGCCGCGGACACGCGCTCCATTGTGTCGGGCTACTCCACCCTGTCCACCATGGACCGCAGCGTGTGCTCGGCGCGTAGCGGTGCGCGGGC  
AGGGGCGGGGGATGAGGGCGACGACGAGCGTAGCGAGCTGAGCCACGTGGAGACGGACACTGAGGCGCGGGCGGGGGCGCGCTGAGCGCGCTGAC  
ACGCGCGGTCCTTACGCTCGCACCACTCATGCCCTGCGACACTCTGCGCGGCCGCCGCTGGCCGGGGCCAGACGGCGAGGCGCGGGGCCGGGG  
CGGTCCCCGCGCCCGGAGCCCGCGCTGCGGCTGCTCCAGCAGCCAGGAGTGCCTGCGGCCCGCGCGCGCGCGTGGCTCCCGGCCCTCGCGATGGA  
GCGCGTGCCTAAGGCTCCGCGGCACGGCGGACGACATGCTCGCCGTGCGCGTGCGGCGCCGCTGTCGCCGAGACCCGCGCGCGCGGAGCA

cg15825321 Vaginal 26% (11%), Saliva 52% (10%), Blood 15% (8%), Semen 1% (1%)

cg07118262 Vaginal 35% (7%), Saliva 53% (10%), Blood 33% (6%), Semen 5% (1%)

Produktlänge: 117 bp, mehrere Nebenprodukte

SA\_chr17\_1\_for TM: 60 °C, Länge: 18 bp

GATGAGGCGGACGACGAG

SA\_chr17\_1\_rev TM: 62°C, Länge: 19 bp

GTGGTGCGAGCTGAAGGAC

Nebenprodukte!!!!

**Cg16732616 Lin 2016 not tested**

Vaginal 1%, saliva 28%, blood 1%, semen 0,2% (2%, 10%, 1%, 0,3%)

**Cg20691722 cg02213103 Park 2014 not tested**

AATAGGGAAATGTGGGTTTTGCTTAATTGTTTTAAAATCAAATAGAAAATAATTACTGTGCTAAATGAACAAGATGTTTTAAGATTTACA  
TCTTCAGGGTTATGGTTATTGATTTTAACTTTACCCTTAAGAAGTTTAGAGATCGCGTTTTTAAAGTTTGCTTATTGACGGAAATCG  
GCTTAATTTTTTCATAAAAGAATGGCTTTTTTAAAATATTGAATACTATGGCTATGCAAGGTTTATGATACCTTTATGTTTTATTCTTCC  
CACCTCCCAAAATTAGCGAATTCGAGATAACATTTCAAGGGGAATTGCTATTTAGTGCGATGAGAGATGACTTCTCCATCTGGTTCC  
AGAATTAGATCTCGGCTTAGGTTTTTTAGTAAGTAGGTTTCAGATGCAATGGAAGGAGAGAAGAATCAAGCCTTTTGATAAAAATCTCT  
ACCCCGAATTCTATGGAAAAGACAGGCAAGCGGGATTCCAGCCACAGCACCCCCACCTTTTGCTCTACCAAAAAGGCTTGTCCCCATT  
ACAGAAAATAATATAGTCGGTGCTAGTTTTGTGAACCCGCGCCCAACCGATAAGGTAAGAAACGGTTCGCGTGCAGCCGAGGTCCGAAG  
GCTGCTCAGTGGTTCCCGCAGCCCGTGGGGTAGGGAGGCCAAAGCCAGCAAAATGTTGGAGGCGACGCCAGAAAAGAGAGTATATGCC  
TGCTATTCGGAAGTGATGTCCGAACGTGCAATAGCAGAGTCTTGAGATTTCCACCCCGTTCGCGACCCAGGGATCCAGCCTGTGGG  
GTAGCAGGTTGTTGGGTG

Cg20691722 Vaginal 6%, saliva 29%, blood 7%, semen 2% (2%, 15%, 3%, 1%)

cg02213103 Vaginal 16%, saliva 40%, blood 21%, semen 4%

cg16276063 Vaginal 16%, saliva 42%, blood 12%, semen 1%

### Cg15227982 Forat 2016 not tested

Vagina 22%, Saliva 32%, Blood 32%, Semen 82%

### Cg21597595 Forat 2016 not tested

Vagina 5%, Saliva 19% (min 13) , Blood 5% (max 10), Semen 1%

## Blood Marker

BL-I Cg04011671 Lin et al. 2016)

CGGAAGTGGCAGTCGTGGGGAGGCCCCAGGACGCTGTGGCCACGGGGGCGGCTGGAGGAGAGGAGGCAGGGGGCTGGGGGAGTGAGCCAGTAGGGAG  
CCGGGCAGCACACTGGCCACTGAGAGGTGTGATGGGGGAGACAAGAGGCGGTGATTCTGGGGTGGGAGTTACCCCTCCCAATTCTCAAACCCCGGAC  
AGGAGTGAGCTGCGTGCCTACTCCCGCAGCAGGTGGCGCGTCTTGTGCGATTGGACTGCGGGCCTGGCTGGGAAAGCGCTCTGTGGAGAGGGACGCG  
ACTGGAAGCGGCTGGGGGCGAGCGTCTCTGCGCTGGGACCCTCACGGGGCCTCCCTGCTCCAGTCACTCCCGCCCGCTGCCAGCCTGTCCCCAGCTCTCTGTG  
GTCTCCACTGTCCCTGTTGCCCTTCTGTCTTCTCCAGCCCTCCAGTCTGCTTTGCGCTGGGGTCCCCGGACAGGGTCTGGTACAGTGGTTCACTCCGAAGC  
ATCCTACCGGATAAGGGAAGTCTCAGCCAGCCAGCGGGCGTTGGCCATGGCGTGGCACCCTGGGGGGCCTCTAAGCAGCCCCG

Cg04011671 (Blood 25% (max 39), Sperm1%, vaginal 6%, Saliva 3%)

cg03717364 (Blood 34%, Sperm1%, vaginal 10%, Saliva 3%)

BL-I for: TM: 60°C, Länge: 18 bp FAM

BL-I rev: TM: 60°C, Länge: 18 bp

BL-I\_cut1+2\_rev: TM: 60°C, Länge: 18 bp

BL-I\_cut3\_forw: TM: 68°C, Länge: 22 bp (erster umrandete Primer) FAM

BL-I\_cut3\_rev: TM: 56°C. Länge: 16 bp

BL-I\_cut4\_forw: TM: 60°C, Länge: 18 bp (zweiter umrandeter Primer)

BL-I\_cut4\_rev: TM: 62°C, Länge: 20 bp

BL-I\_cut3\_alter = BL-I\_cut3\_forw + BL-I rev

BL-I\_cut3+4 = BL-I\_cut3\_forw + BL-I\_cut4\_rev

### BL\_chr1\_l cg02431672

GCAGTCCCCTCACCGGCGCTCCCAAACAGCCCGGGGCGCGCTGGCGCGGGGCCAGGAAATCCGCGCGCGGCCCTTGAAGCGCACCCGGGCGGGAGGGG  
GCGGCGGGGGCGGCGGGGGCGGGCTGGCGCGTGGCACCACGACCGCCCGCTGAGCAACGTGACTGCGCGGGCTCGGGTCCCCACCAGGACAAGGCGGCCT  
CTGTGCCACCCAGCTGATTCTCTCGGGCTGCAAAATCCCTCCGGCTGACAGCCCTGCCGGCTGGGGCCAGGCAAGGGAACGGGAAGCGGGGTTGGGGGCG  
AGGTGGCGCGTGGAGATTGGAGCCATTGGCGGGAGGCCCCAGGAAGGCCTCTGCTCCGTACATCCAGGGTAGCAAAGGCTACCGTTCCCGGACAGAGA  
AGCCGAGGCTAGGAGAGGTCCAATTACTAGCCCAAGTCGCACAACCTGTTTCTTGTTAAAGCCAGAGTTCTAAATGACGCCCCATGATAAACTCTGTATTTGT  
GTTGAGAGTTAGGTGGCGTTATTAGTCTCAGTTTATAAATGAAGGAATGTGAGGCTCAGAGTTGAAGCCGCCAGCCCAACGTCTTAAGACAAGAAGGGAGTG  
AGGCTGGGACTGGAGCCCAGGACTGCCTGCTCCAAACATGGGGGCCAGGCAGTCCAGCAGACCCCTGACCCAGGTAATCACTGACAA

cg02431672 Vaginal 8% (3%, max: 14%), Saliva 8% (2%, max: 15%), Blood 26% (4%, min: 18%), Semen 3% (1%, max: 4%)

cg14780649 Vaginal 17% (2), Saliva 19% (3), Blood 21% (2), Semen 17% (2)

cg18153322 Vaginal 6% (1), Saliva 8% (1), Blood 9% (1), Semen 6% (1)

BL\_chr1\_l\_for TM: 62°C, Länge: 20 bp

BL\_chr1\_l\_rev TM: 64°C, Länge: 21 bp

**BL\_chr1\_III cg19637387**

AGGTAGCTGGGGTGGGATTGTGAGCATTGTCAGATGAAGGTCACAGGGGTAGTGTAGGAGTGAAGGAGAGTCAGGACCAGCGTCTCCTGATGTCCAGCAG  
GGAGGGCTCCTAAAGATCCTCTTTACTAATGTGGAAGTTGAGACCCAGTGGGGGTAATGGCCCGTCCTGGGCACTCAGTGCATGAATGCTGGAAGCCAAGAGT  
CCCCTGCCAGCTCGGGCTGGCCGGGGCCTCCACATCTGCGTTCTGCAAGGCGCGTGGAGGAATGCCCTGGCTGGGCGGCCCGCCCCTGCTGGGATCCAG  
GCCAACGCTCCACAAATGAGAGCTTGA GCGCGCGGGCGGCGCGCTGGGAGAGGCCACACGGTGCGCTAGCGCCAGCCTGGCCAGCACCATGGGCAG  
GGCCGGGCGCGCTGGCTCCTCCAGGCACTTCTCCACGCGCACCTCGCGTCCACAGACAGAACTCCTGCCGCTCCCCCGGCATCTGTCTCGTCGCGGGA  
AGTGGAACCTCCATCCTCAGTCTCTGGGCGTAATCCTTGGAGTCTCCATGGTCTCTTTCTGTTCTTCCCCTCTCTTCTGCCCC

- cg19637387 Vaginal 8% (2%), Saliva 8% (2%), Blood 22% (4%), Semen 6% (1%)
- cg15482882 Vaginal 8% (3%), Saliva 7% (2%), Blood 23% (4%), Semen 5% (1%)
- cg09160123 Vaginal 26% (6%), Saliva 34% (5%), Blood 50% (7%), Semen 7% (1%)
- cg05388840 Vaginal keine Angaben, Saliva 8% (2%), Blood 27% (3%), Semen 6% (1%)
- cg12034678 Vaginal keine Angaben, Saliva 1% (1%), Blood 7% (3%), Semen 1% (1%)
- cg11177980 Vaginal 20% (8%), Saliva 8% (3%), Blood 34% (3%), Semen 4% (1%)

BL\_ch1\_III\_for TM: 64°C, Länge: 21 bp

BL\_ch1\_III\_rev TM: 64°C, Länge: 21 bp

Bl\_1\_III\_new : GGCATTCCCTCAGCGCCCT

**BL\_chr2\_I cg02345886**

CGTTAGAGGACCTGTTGACTTAAGGACCTGCATATCGCGGCTATGTTTTGCTGTGGCATATGACTCAAAGGTTCAAAAAACATTGTTTCAGGATCCTGCCAC  
GTCTAAGCTTGGGTGTGCCAGGCCAGATTCCTTCCCTGCCTAATTAGGCTTTCTGAA GCCTAAGAATTGAGGGTGAACTGGCGCTTACCTTAGACTTTTAT  
TTCCTTCTTTCCAACCTCATCAAAGAACTATTTCTGTTTTAAGAACCCTCGAGTTACCAATATTTCCGATTCTGAAAACGTTAA CATAACTTGCTATAGAAG  
TTACACTACATAATGAAGACATTTACAGTCAAATCTATAGCTAAAAAATATTAAGTGACAGCATTTAATTAGAAAATCTCTG

cg02345886 blood 50%, saliva16%, sperm3%, cervix 28%)

Blood chr2 I forward: TM: 66°C, Länge: 23 bp

Blood chr2 I reverse: TM: 64°C, Länge: 24 bp

**BL\_chr2\_II Cg06645778**

GGGGTCCCTGGACTCTCTCGAGCAGGAGTCAAAGCCTTACCAATCAAAGTGGCGCAGTCACTGTCCTCAGAGAGCCTCATTGAGCCCTGTTTTTAAACAAGT  
CACTTGCCAGTCTGGGGTAGTCAGCTTCTACTGAAAATCTCCTCATAACCTTTGTGGAGTACTCCCAGGGGATACACACCTCTTTTATTCAAGCCAGAAATTC  
CTTTATGGCATTTCACACTAGGACGATTATGTAACCTCTCAGATAAAGCTGTATCAACATATCTCTATTAGGTGACATCCTTGGCTGAAACATTCCATTGCATG  
AATCACCGGGGCTTCTATGCTAATAAGCAGGGAGCATGTGTGACCTACTGCACTCCAGAGGGCCCTCAGAGGCTCCTTTTTTTTTTTTTTTTTTTTTTAA  
ATTGAGACGGAGTCTCCCTCTGTGGCCAGGCTGGAGTGCAGTGCGCGATCTCAGCTCACTGCAACCTTCGCCGCCGGGGAGGCTCTTTCTTCTAGTCACT  
GCAATTGGCTGTGTGGCCTAGAACATCAATGTGGCTTTTGTGCTTCTAGTTTTCCCTTTATGGACCAGAGCTAATG

Cg06645778 (Blood 50%, saliva9%, sperm3%, cervix 14%)

Blood chr2 II forward: TM: 66°C, Länge: 19 bp

Blood chr2 II reverse: TM: 66°C, Länge: 24 bp

Neue mögliche Primer

Bl\_2\_II\_for\_neu

ATCACGGGGCGTTCTATG

Bl\_2\_II\_rev\_neu

ACATTGATGTTCTAGGCCACAC

Produkt 241bp

**BL\_chr6\_1 Cg08792630 (Park et al. 2014)**

CGTCACTAGCTGAATGAGAACCTTCGGGTCCAAGTTTCAGCTTGTGGGTGTTAACACCTACAGGCACATCGATCCGATTAGAAAAAGCAGTGGTTGCAAACCTT  
TTCTTGGACGGCTTCTTTCTTGCCTATATTGATACCTTTTCTTCTCGGAGATGTCGCTCCAGTAAACCTGCTTCTGACTAGTGTCTTCTGAAATGTTCTGGGGCC  
TCGAACCGGCCGGTCTGGCCACCTCAATCCAGACTGGCTGCACCCGCTGCTCCCGCCGAGGCTGGATTCAGGCACTGTTTGAGGGAAGGGCTCTGGTGTGGG  
GGACGCGGGGCTGCGCTTTCATTCACTCTGGCGTTTGGGAGGAGGTTTGGGGCTGGGCCGGGCCGTAATGGCTTCTACCTGTAATGAACCGAAGAGAGA  
CTCTACCGTTCCTTATCATCTCTTGGGGCACGGGACACGTGGTAGGGAGAGAGGTGTGGAAAGGCCTATGATGTAATGACTTCTGCAGTTGGGTATCCAA  
AGAGATTAACCTCTGCCCCGCTGGGCTGCTGATATCCAGCTGCTTCTCTTCTAGGCACCTCCCTGGCCCCCTCCCAAGACAGTGTGTGTCAGTACCAG  
GCCAAAGAGTCTGTGCGATTGGAGATATACATCTTATCAGCTGCCATATTTGCAATTTAGCTTAGATTTTT

**Cg08792630** Vaginal 13% (6, max: 26%), Saliva 10% (3, max: 19%), Blood 37% (6, min: 26%), Semen 5% (1, max: 7%)

**BL\_chr6\_1\_forA** TM: 62°C, Länge: 20 bp

**BL\_chr6\_1\_revA** TM: 64°C, Länge: 20 bp

**BL\_chr6\_1\_forB** TM: 62°C Länge: 20 bp

**BL\_chr6\_1\_revB** TM: 64°C, Länge: 21 bp

**BL\_chr11\_1 cg04434593**

GGGCAGTGGTGGGTGAATTGGAAAGGGTGTGTTATCAAGAGGGGCGTGGGGGGGAGGAGAGTGCAGGAGCCAGGTGTGCACAAGAGGTGGGACGTGG  
GGAGGAATGTGAAGTGTCAAGTGCAGTGCAGCCAGTGGCTGGTGTGCAGGGGTGGCGTGCAGGGGTGGTGTGCAGAAGTGTGACCGACAAGAGTGTGGGTCTGTGAA  
TGAAGGGGACAGGGAGCCATTGCACCCATCAGCAGTGTCACTTCTGGGGCTCGGGGTGACAATTGCCATCTCTGCTTCTCCCGGTGGAGCGTGTGGTCC  
AGGGCAGCGAGGGTGTCTGAGCTGGCCAGGAGCGCTGTGGTCTGTTAGGGGAATATGTACTCGCATCTGTCCGTGTGTGAGGGGCAACGTGTGCTCCCGAG  
CTGTGGCGGAGGTCAAGTGGGGTCAAGTGAAGCAGAGAGGTGTCCCTGGGTTAGGGTCAAGAGAAGGAGGACCCAGTAGAGCAGCGTGGCCAGTGGCCCCCA  
CCCCTAGCCTCTCCAAGGCTTAGCTCCACCCGCCGCTCTCCCTCTCTCTGTTAGCCCTCACACCCGGGGGAGGGCCAGGCTGGGAGCTGGGGGAA  
CAGGGGTCTCTGGGATTGGGAGGGTCTGTGGGGAGGGCTCCAGAAGCCAGCACGGAGTTGTGGAAAGGAAGCGGGTGGGGAGAGCAAGC

**cg04434593** Vaginal 7% (3%, max: 14%), Saliva 8% (2%, max: 12%), Blood 22% (4%, min: 15%), Semen 2% (1%, max: 4%)

**cg14588642** Vaginal 11% (3), Saliva 10% (4), Blood 17% (3), Semen 36% (5)

**BL\_chr11\_1\_for** TM: 64°C, Länge: 19 bp

**BL\_chr11\_1\_rev** TM: 64°C, Länge: 21 bp

**BL\_chr12\_1 cg22249612**

GTGCCCCGACACCCACGGCAATCAGTCCCCTGACAGGCCTAAGAGAAAATCAGGTGAGGATTAGGCCATATCCACAACACAGTGGCCCTCCATGGTGGAGG  
GCAGGGGGTACACCTAGGACAAGACTTGACCCCATCCGGAAGAGAGATTCTCACACCTTAGGGAATTTCTTTGGCTGTGGGGTAGGGGATGACCCATCCT  
TGCCTGCCCTACCTCCCCTGATCCCCTCCCGGCTTTAATCAGGGACATGACCAAATTCAAAAACCTCCAGAAAGCCTTGACCTCAAGACAGTATTTCTGAC  
CTAGAATAATGCTTTCTACAGGCCTCCAGGGCTCCAGCTCAATTTCTCTCCAGAACTGCCCTCACTATCTCCAGTGCACATCCACGCGCGCATCAGCTGTG  
ACTAAGGTTCTCTGGCCAGTTAGGCCAGGAGAAGGGAAGAGGAAAAGGGAGCAAGAGTGTGTCCCTCCCTAGACAAACAAGTAGCCTCTCAAGCCAGGA  
GCCCAGGGCAGGAGCAAATTGAAGTGGGCAGAGCCCTTCTCACCCCAAAGCGCTGGGAGGAGGGAAAGGGGAGAGGGGCTGGACAGGGATGAGAGGG  
TTGGGGAGGGAGAGAGGGGAGAAGGGAGAGCGAAGGGAAGCCCATGGCGATAGCATCAGGCGGTTGGCTGGTTGCCCACT

**cg22249612** Vaginal 7% (4%, max: 15%), Saliva 7% (3%, max: 16%), Blood 35% (5%, min: 28%), Semen 1% (0,5%, max: 2%)

**BL\_chr12\_1\_for** TM: 64°C, Länge: 20 bp

**BL\_chr12\_1\_rev** TM: 64°C, Länge: 20 bp



**BL\_chr14\_I cg23051349**

TAGGAGCTCCCCCTTTGTCTTTATAAATGAGATAAAAAGTAACCAGACCTCCTGGAAAAACCGAGGAGCACTTGCTTCTCTGGTGA CTGCGGGGCCTAACTGCA  
GGGTTCAAAAGGGCTGCTGGTGCTGGGTGATAACATCGAAAGGAACAGCAGTTACAAGATGGGGCTGGGGGACTGGCCAGGAACCCCTCCAGGTTAA  
ATGATGCCTCCGGGCCCGCACTTGGGACGTCTGCAGGCACTGGGAGGGTTTTTCCCAAGCCGCTGGCAGCAGCGAGCGGAGCCTCGCCATTGAATCAGCAT  
GCCCTCCGGGTGGCTGCTGAGTCAGGCCTGCGGAGCCGGCGAAGCCGCAGGACTTGACCCAGGCGCGCTCGCTGCCCTTACAGGCCGGGCTGGAGGTCGAG  
GCCCTGCAGCCAGGGAGATGCGCGCGTGGCTGCGTGGGGACAGAGGGGGTGTCTCCACCCTCACAGTCTACACCCCGGCCCTTCCCCTTTGCCCGTCTGA  
GGCGCAGTTTGTGTCGAGGGGGAAGCGCCTGGAAAGTTTCTCGTACAGATACGAGGGTCCAAAAGCCCGAGGAGAGGGAATAATGAGAAGGGGAGGCGC  
CAGGGTTAGAGGTCAGGGTCTCGACCAAAGGCTGTCGGTTTTCTGGAGGAGGGAGAAAGGCTGGCCGGGATCATCTGATTCCGGGGCCTCCCGAAGGCCT  
CCTAGCTGGGTTTTGGGGGACCGAAACGAGCGCATGAAGCTCGCGGCCTGGGAGTGGGGTGGGGCGGGAGCCAGTGGTGGCGG

cg23051349 Vaginal 8% (4%, max: 17%), Saliva 4% (2%, max: 10%), Blood 27% (4%, min: 20%), Semen 2% (1%, max: 3%)  
cg23090046 Vaginal 27% (7), Saliva 28% (8), Blood 54% (7), Semen 7% (1)  
cg05321721 Vaginal 11% (3), Saliva 12% (2), Blood 16% (2), Semen 9% (2)

BL\_chr14\_I\_for TM: 64°C, Länge: 18 bp

BL\_chr14\_I\_rev TM: 64°C, Länge: 20 bp (zweiter umrandete Primer)

BL14\_I\_rev\_alt TM: 62°C, Länge: 18 bp (erster umrandete Primer)

**BL\_chr16\_I cg06329093**

TATAAACTTAGCCGGGCGTGGCGGCGGCGCCTGTAATCCCAGTACTCCAGAGGCTGAGGCAGCAGAATGGCTTGAACCCGGGAGGCGGAGGTTGCAATG  
ACCCGAGTCGTGCCACTGCGCTCCATCCAGCCTGGGTGACAAGAGCGAAACTCCGTCTCAAAGAAAAAACTAAAACCTTCCCATGGTTTCTTTTAAACAGA  
CCCTCCATGACCAACCCCTCCATTTCAATACCAGAGAGCCTAACCCGACCTGAAATCACTTTAGTCATGTATGACATCCGCTTCCAGCCCCCTTCTTAATGCTCT  
GGGTTCTGGAGACAGACCACTCTGTTGGGAGTCTCTGTGCCCAAGCCTGGCACAGAGCCTGGCAAAGAGTAAAGCGCTCAAGGAAGATCTGTGAACCTGATG  
CATGCTAAAGGAAGCCCCGCGCTCTGCCGGGGCCCTGGAACCTCAGGCCACCGGCTCCAGGCGGAAGCGAGCCAAAGCCGGCCAGGCGGCAGCATCCGCTA  
CCCGTGGCTCAAGCCAGGCTCCGAGGTGAGAAACCGGGCGGGGACTCCTCACCTGCGCGCCGCGGAGCCGTGCCAGATGGG

cg06329093 Vaginal 8% (2%, max: 13%), Saliva 9% (2%, max: 13%), Blood 22% (4%, min: 15%), Semen 5% (1%, max: 7%)  
cg11657615 Vaginal 12% (3%), Saliva 14% (3%), Blood 31% (6%), Semen 7% (1%)  
cg00420361 Vaginal keine Daten, Saliva 7% (2%), Blood 9% (3%), Semen 5% (1%)

BL\_chr16\_I\_for TM: 62°C, Länge: 20 bp

BL\_chr16\_I\_rev TM: 64°C, Länge: 23 bp

**BL\_chr17\_I cg05164926**

CCAGCGTCTGCCAGTCCAGCCAGTCCGCCAGTCTCTCGCTCCGAGACTCGCTCCAGCCTCCACCTCCGCCGGGCCGCGGAGCCTCGGGGGGCGGGG  
GCGGGCGCGCAAGGGGCGGGGCTGTCTTTAAAGGGCCCGGGCCGCTGCCCTTAGGCCACTTCTGGGGCGGAGAGACCTCAGCGGCTCGGGCGACAC  
CCAGGGAAGGCGCGCGGCCGGTCCCGAACTCCTGGCTGTTTCCATCAGAGCCCTCGGACACTCCAGCCCGGGGCTGAGCACGCATCGTCTCCCGGCG  
GATAAAGGGGGTCCGCCATCCGCTCCCGTCCAGTTCGGCCTCATCTCTGGGACCCCGCGCAGCCAGGCGAGGCTCTGAGTGGCCCCAGAGCCCTGG  
CTGGACTCGTCCACGGCGGAGCAGATCTGCCGGGGTCTCGGAGGCCATCCCTCAGAGTCGGCCCTGTGCTCGCCACCGTCACTGCTGGTTGGATTCCGGA  
AACCCACTGTCTGAAGACCACAGAGGGGTGTGCTGACCACCCAAATCGGATACGTCCAGACCTCAAGCTCCCTTCCCCTCTGCGTGCCTCTGCTTTTTT  
ATCTCTTCTCAACCTTTGGGGATTTCTGTG

cg05164926 Vaginal 7% (5%, max: 17%), Saliva 6% (4%, max: 18%), Blood 29% (6%, min: 20%), Semen 1% (0,4%, max: 2%)  
cg02550691 Vaginal 9% (3%, max: 14%), Saliva 9% (3%, max: 18%), Blood 21% (4%, min: 14%), Semen 5% (1%, max: 6%)  
cg03982355 Vaginal 7% (2), Saliva 10% (2), Blood 11% (2), Semen 7% (1)  
cg03407547 Vaginal 1% (0), Saliva 3% (1), Blood 3% (1), Semen 2% (1)

BL\_chr17\_I\_for TM: 66°C, Länge: 21 bp

BL\_chr17\_I\_rev TM: 64°C, Länge: 21 bp

### BL\_chr22\_I cg19343611

AGAAAGCCGGAGGGGCTGAGAGAGACCCCTTGAGACCGGGGGGGGGGGGGAGCCCGTCCCGCCCCCTGCCAGGCCTGCTCCACGGTCTGGAGA  
CCCCCTGACTTCCGGGGGCTGCGCTCTCATCGCACGGCGGGCGGGCGTGGTCAGCACCCGTGAGGCTGATTTACTGGCGCTCGCCGCCCGCCGCGCGGG  
CAATCAGCCGCCCGCCAGATCTATTATTGATGAACCTTCCGAGGCCGCTAATTAAGTGGCGCACCCACGGCGGGCGCGCTGGCGGTGGCGGCTGAAATA  
CGGCCTGCATGTCCCAATGTACAGGGCGCGCGCCGCGGGATGGTCCCAGAGAAGAGGGACGGATCTCAGCCGCCGGCTCAGTCCCAGACCCGCTCCCC  
ACCACCCGACCCGGGGTGGGAGCCAGCGGGCTCTAGGAGGGCCCCCTAGCCACCCATGCGTGGCCTTGGCAAGTGGCTTAATCTCTGGGCCTCAGG  
ACAGATCGTCCCTGCTCCCTGCAAAGCCCTGCGCACTCCCTGCAAACCTTGGCAGGCAGCGGGTGGCAGAAACCTCCAGTGTCTGGCCATCCACGGAGCTGG  
ATTCCAGTCTCGATTCTGCCACTTCTGGTGTGTAGGAATTTGACCTCTAGGAGTCCAGTTTCTCATAGAAAACCTGGAATA

cg19343611 Vaginal 8% (4%, max: 16%), Saliva 8% (4%, max: 18%), Blood 23% (5%, min: 16%), Semen 1% (0,4%, max: 1%)

cg14757543 Vaginal 21% (6), Saliva 23% (6), Blood 36% (5), Semen 11% (1)

cg18009127 Vaginal 14% (2), Saliva 17% (2), Blood 20% (2), Semen 15% (2)

cg27004669 Vaginal 25% (6), Saliva 37% (5), Blood 47% (8), Semen 6% (1)

BL\_chr22\_I\_for TM: 66°C, Länge: 20 bp

BL\_chr22\_I\_rev TM: 66°C, Länge: 20 bp

### BL\_II Cg18454288 cg26163537 (Lin 2016)

CCCAGGACACCAACCTCAGGCGGGCGTTATTAGCCATTGTAAGATAAGGACACCAGGCTTGGCAGCATTAAAGAAAAATGAAGGGCCTCTACTCCACCC  
GCACTTCGATACTCATAACGATGGGGCAAAGTGGGCTCAAAGAGGTGAGGCCCAAGACTGGCTGGCTGTGAGCAAACCCAGGTTTCTTTCCAGGCC  
GGGTGCCTTCAGCCACGACAGATACGGGGCAGCCCAAGTCTTCCGTCCTGCTGCGCCAGGATAAAGGATCTGGACTGCGCAGTTAATACTTTGTG  
CGTTTCAAACAGTTCGTTATAAATGTCTTTCCGGACAGGTCCAATTGTCTTTCACTGGCGAAGCCTCCTGAGCCGCGGCGGTGCTGTGGTCCCAGCGCCGAGT  
CCCGAGGACAGCAGGAGGGGGGAACCCGCTCAGCA  
GCCCGGGCAGGAACCTCCGGGAGCTTCTGGCCCCCGCCGTCGGCCCCG

Cg18454288 Blood 15% (max 25% große Abweichung), Sperm 2%, vaginal 4%, Saliva 4%

cg22281380 (alles nicht methyliert) (Vaginal 3%, Saliva 4%, Blood 4%, Semen 1%)

cg15774495 Blood 10%, Sperm 1%, vaginal 1%, Saliva 1%

cg26163537 (Blood 23% (große Abweichung), Sperm 1%, vaginal 10%, Saliva 1%)

cg21517389 (Blood 18%, Sperm 1%, vaginal 1%, Saliva 1%)

Nur zwei Schnittstellen, aber trotzdem nicht spezifisch, evtl weil nur wenig methyliert

BL-II rev: GACCTGGCTGGCTGTGAG

BL-II for: 6FAM-TCGCCAGTGAAAGGACAAAT

### cg00340958 no HhaI cutting site

chromosome 20

atattatgccttctagaggaaactttctgatgacactttgtaacaaggcaatctgatgctgctgttctatcttccagatctagttgatagttcaaacatcaacattaaccacaagtaaaatgcttaaa  
aaataatcaggagacgatctctgctctatctggaatttctattcagctagttctgcttgacaggtcaacagagaatggcactagttattgctacaatctaaaaggcatttccctacagctaaacatcaac  
cctttcctaaatccatataatcaaaatcttctagcagaattactctcctgccctacccagcagcatcttctgatcattttaccataaactgaggttctctatagtgatgcaagtccaggcaaacacatt  
ccttaagcgtccacctaactccttctctggaagtacatgtaatagctgctttatttactattttaaaactctcaagcaccaggtacagtggaagtgttttaagaacatgatctacttccatccttaac  
actgtatgagattgggactcacatttccatctttagcagaggagaatgcaaggcttagtaacctgccaaggtcatagggcagagattggaatccaagtctgacctgtgtctcctccttaaccttcatgc  
tgtcttctct

cg00340958 (Blood 50%, saliva10%, sperm12%, cervix 15%) on chromosome 20

**cg06379435 Lee et al 2015 / Park et al. 2014 no HhaI cutting site**

CGGCATCGCGGTTACTGTTCAAAGTTCCTTTTAGCAGAAGAGAATAAAGGCTCAGAGAGGGGCGAGTCTAGCGCAGGGTCACACAGCACAGTGGGGTGGAG  
CCACCTTCTGTGCTGGGCATGACTCCGGGCACAGCCGAGCCGAGGTGGGGGCCAACCCCTACCATGCCAGGGTCCAGGAACTGCCAGAGGGGCCAG  
GCCATGCCACTGTTGCAAAATCTGAGGGCGGCATACCGGCAAGCCTGAGCAGTTGCCACGGCCTCAGCCCCACGGGCACCGCCAGGAAAGAAAAATGCAACT  
TACTCTGGGACCCGGGACAACCGGTGGAACCTCAGGCGTGGGAAGGCTGCCGAAAGCAGGGGCCAATCAGAGACAGCTGCCTTGCTGTGTGGCCTATCAG  
AAGATGGCTGCATATGTCTGGCCAATGAGAATGCCCCAGTGAGGAAAGGCCACGCCCCCAAGTGAAGCCATTGGCCCCATGAAAGGGCTTGAGGTGGGT  
CCCTTTGGTCTAAAATTTCTTCTCACTCTGTTGGTTGACAGCGCAGGTGAGTCTGAGGCTTCTGATGTGTGGGCACTGAGGGTCGATCTAAAGAAAAATGCA  
ACTTACTCTGGGACCCGGGACAACCGGTGGAACCTCAGGCGTGGGA[CG]GCTGCCGAAAGCAGGGGCCAATCAGAGACAGCTGCCTTGCTGTGTGGCCTA  
TC

**cg06379435** (Blood 47%, Vaginal 20%, Saliva 4%, Semen 1% nach LINs Chip nicht Blood spezf.) nach Lees Exp. (Blood 40%, Vaginal 5%, Saliva 4%, Semen 8%)

HhaI Schnittstelle relativ weit entfernt

**cg01607849 Lin et al 2016 not HhaI cutting site**

CCTCCCTGCCAAAGTCAAGTCTCCACTTTTACTGGTTCTAGAGCTCTAGGAAAATGGGGTTGGGTGGGGAGGTGGAGTAGAGTGACTAAATGCCGACACAA  
AGCCAAGGAAAGATGGAGTGAAGAACCCTTCCCTCTTTTATTACACAGGAGTGGAGGATTTCCCAAATGTCCTAACTGGCTAGCTGGCTTCCAGGCTGGGAC  
TCAGTCCCTGCAGTTCCTGCCAGGCTTCCAGCCGGGGAGGTTGGGATGATCCTGGCGGCTATGCCTGTGTGGGCTGCCCTCCCGCTGTGAACCTGC  
ATTTGTCCCGCAAGTTTTACTCAGGTAGACTCCCTGGGTACAAGGGTGCCTGCTCAGCAGTCGGGCATGAGCTGCTCCGATGGGCGAAGGAGGTTGTCTATCC  
CACAGTTGGAGAGGGGCCCTCTGCCCCAGTGGGCGATCTGGGCTACGGCCAAGTTGCCACCAGCTAGTTCGGCTTGAAAACAC

**cg01607849** vaginal 4%, saliva 3%, blood 14%, semen 2% (2%, 1%, 2%, 0,4%)

**cg03363565 (Forat 2016) no HhaI cutting site**

CGCCCACTAACACCCCTATTTAGAAAGGTTGACACATCACTACTGCTTCTGAAAATTTTATCCGGCCGAAGGCATCAGCCCAAATTTGAATCTTGCCAAA  
GCTGCTGGTGATTTCTTTTGAATGCAATCTTCTCATGAACAGTACAGCTTTACAAGAAAATGAGAATACGGTTTGGGGAGGAGGATCCCTCACATTC  
CTTTCTAATGCCAGCCTCGGAAGTCTGGTCCCATGTACCTGGGATTTGCCAAGGAAGTACTCACTTAATTAACACGCTGCTCCTGACCTACACTGG  
AAGCAGAGGTTCCGTTCCCTTTGGTTCTTGCCAAAGCTGTTACGAAACCATATCTTGTGTTGGTGGCCATGGTGTGAAAAATACAAGTTCATCTTTCCCTGATA  
CAAATATGACAGGCTAAATTTAGTGCCTCACCTGTCTAACTAGCTTTCCACCACATGCTGCTGCCGCGGGCTGTGGTCTTTCTGAGGTCCCGTGTCCCTCTG  
AGGACAGGGACACCCAGACACAGAGGTCAGTTGTGACAGCGGCCACGGTGTCTCGGGAGGCTGGTGCAGACGGGCGATTACCCTGGGTGTCTTTGAGT  
CTTATTTTTGTAGAGACGAG

- cg03363565** Vaginal 13% (6), Saliva 5% (4), Blood 44%( 6%), Semen 2% (0)
- cg09555736** Vaginal 20% , Saliva 26%, Blood 56%, Semen 6%
- cg02102075** Vaginal 19% , Saliva 17%, Blood 52%, Semen 4%
- cg06502279** Vaginal 18% (6%), Saliva 14% (5%), Blood 51% (8%), Semen 4% (1%), Chromosom 16

- cg11682724 Vaginal 58% , Saliva 38%, Blood 36%, Semen 89%  
not found, should be here after information from beatchip, false position on chip information ??
- cg10716524 Vaginal 82% , Saliva 73%, Blood 78%, Semen 85%  
not found, should be here after information from beatchip, false position on chip information ??
- cg17645074 Vaginal 82% , Saliva 74%, Blood 78%, Semen 85%  
not found, should be here after information from beatchip, false position on chip information ??
- cg18493147 Vaginal 83% , Saliva 77%, Blood 76%, Semen 92%  
not found, should be here after information from beatchip, false position on chip information ??
- cg00814898 Vaginal 72% , Saliva 67%, Blood 81%, Semen 85%  
not found, should be here after information from beatchip, false position on chip information ??

**cg24595580 no HhaI cutting site**

GCATCCACCCGCTCTCGTCCCTGAGAACAGCTGTGAGAAGCCGCTATTTTTCATCGTTCTGCAACACACCTTTCCCTTCTGGGATATTTCTCTCTTTACAG  
ATTGCCGCATCAGGGTCCAAAGCCCGTTTCTCTCTAGTTCTTTCTTGTCTAAGAAAAGCAGCTTGTCTGATAAACTAAGCTATGTATGATTGCTGCCAGTA  
CAGACTGAAAAACAAAATAAACTCCCAATTCACAGTCTCCGTTGCGTAACAGTGAGCAGACGTTCTGAGAAATGCATCGTCAGGCAATTGCATCATTGTGCAA  
ACAATATAGAGTGTACTTACCAAACCTAAACAGCACAGCCTACTACACCCAGGCTGTAGGCTGTGCTTCTAGACTACAAACCTGTACAGTGTGGTACTGAA  
CACTGTAGGCAACTGTAACACAATGGTAAGTATTTGTGTATCTAAACATAGAAAAGATACAGTAAAAATATGGTATGAAAGATTGAAACTGGTGCACCTGCCTA  
GGCACCTACCCTAAGCTTGGAGCTTACGGGACTGAAAGTTGCTCTGGGTGAGTCAGTAAGTGAGTGGTGGTAA



GACTTGGGAGTTAACAAAAATAATGTGATGTGCAATTGGAGCTAAGTAATTAATGCTGAAACCTTCAGAAATAGCCATAATTTTGTATTACATAACAAGTAA  
GCCATTTTAAGGAGTTTCATGAAAGACGTTGGCACTTCACCCATTATTTCTTGCTGATGGTAATTTGACTATCTT

**cg19238415** Vaginal 15% (6%), Saliva 10% (4%), Blood 40% (6%), Semen 4% (1%), Chromosom 11, QSER1

**cg18464274 no HhaI cutting site**

ATCTATACTCCCTCTCCGACAAAACCTATACTTCTCTATATCAAAGCAGCATTGGCCAAGTCTTGGTAGGGAGCACTTCAGGTCATTCCCAGAGAGATGCCATA  
CATAAGGTGGAAGTGCCATGTTGCAAGGCAGTGCAAACGCTCAGATTTCAAGCATTATAATGCGTTGACAGAAAACATTTTTTTTCTATTTAAATCTCATGTTG  
ATTCCCACTCTGGCAGTGATTACGTCTAAGTATTACGTGCTTTTTAAATACCAATTTGTCAAGAAAGTAACTCCATCCCATCCAACAACAGACTTGAGCA**CG**  
CCAAGTATCGCTCATTTTTCTAATTTGCTCTAAGTTCTTAATAAACTGAGTGTTCCAAAAGAAAATTTACAACCCGCACAAATGCCATTTCCAAATTTAACTA  
ACCATGGCTAATACTTAGAAGTGAAGCGTTAACACAGGAAAATCAGCATGAGGGACAAAATACACACACATATACACTCACACACACACACAATCCTTAAA  
CACTGAAGTGG**GCGC**CAGCTCATGTTTAAATATCTCAACTTGAAGTCCACTGAAACAAGAGGAAATTTCTCA

**cg18464274** Vaginal 18% (6%), Saliva 14% (4%), Blood 40% (6%), Semen 5% (1%), Chromosom 12, GXYL1

**cg01840419 no HhaI cutting site**

GGAGACCAGAAGCAGCATCTGACGAGGAGACAGCACTGGCGGTCCCACACAACCTGAATCGGCAGGATGAGGGCCCTTAGTGTTAGGCACCGCGGAGCTG  
CATCCCACCCCGTCTCGTCCCTGAGAACAGCTGTGAGAAGCCGCCTATTTTTTCATCGTTCTGCAACACACCTTTCCCTTCTGGGATATTTCTCCTTTTCAGCA  
TTGCCGCATCAGGGTTCCAAAGCCCCGTTTCTCTCTAGTTCTTTTGTCTCAAGAAAAGCAGCTGTCTGATAAACTAAGCTATGTATGATTGCGTCCAGTAC  
AGACTGAAAAACAAAATAAACTCCCAATTCACAGTCTCCGTTGCGTAACAGTGAGCAG**CG**TTCTGAGAAATGCATCGTCAGGCAATTGCATCATTGTGAAA  
CAATATAGAGTGACTTACCCAAACCTAAACAGCACAGCCTACTACACACCAGGCTGTAGGCTGTGCTTCTAGACTACAAACCTGTACAGTGTGGTACTGAAC  
ACTGTAGGCAACTGTAACACAATGGTAAGTATTTGTGTATCTAAACATAGAAAAGATACAGTAAAAATATGGTATGAAAGATTGAAACTGGTGACCTGCCTAG  
GGCACCCTACCGTAAGCTTGAGACTTACGGGACTGAAAGTTGCTCTGGGTGAGTCAGTAAAGTGTGGTGTAGTAA

**cg01840419** Vaginal 8% (3), Saliva 5% (1), Blood 29% (5), Semen 4% (1), Chromosom 15, FLJ42289

**cg04111435 no HhaI cutting site**

GGCTCAAGTGATCTCCCTTCTCTGCGTAGCAGAGACTACGGCCTCTGCCACTGACTGCGGCCTATTCTGAATTTTTAATATCTAATTTTATCATCCCCATA  
ATCACAGCCAACATTTTCTTATCTCCTGGCTCTTCTCATCAGCTCAGCATTTTTTTTCCCTCTCTAAAATATGTCGCTCTATCTGACAGTCTATTCGGAGGAAAAG  
AGAACCTTAAGACCCAAGTGACCCCTTCTCTGGCAACAGTAACGAGATAAGAATACGAAGCAGGTTCTGCGACTGCATTGCAATGTGATTGGAATGAGTAAT  
CGTTTTTCTTCTGTATAGCATTTTCTCCACCTACCAATGGGGGGCCGTGCCATCTCTGCCTCT**CG**GTGAGGAGATATTACGACACAGCCAGTGAGATTACA  
AAGCACCTTGACAGAGTGGGCTACTCTACTCTGGTTTTTCACTTTTTATTGGAGTACAGGTGGGAATGCATCAACAAAAGATATAGGCTCTGGAAATGTACG  
GGAAAGAGAGTTTCCATAATGGAAGCCAAAGACATTTCTACCGTTAAAATACATAATCTGCCGACCTAAAACATTCACATAAAGAGGCAGGAGGGAATCT  
ATCCCGCAGTCCACGATTAGCCGAGTCTGGGGGGGATTGGGGCTTGATACGCCTTTTTGCGTCTGGTC

**cg04111435** Vaginal 7% (3), Saliva 7% (2), Blood 27% (7), Semen 5% (1), Chromosom 11, RTN3

**cg25784219 no HhaI cutting site**

AGTAGAGACAGCCTAGTCTGTTCAATTGAGGGTGCAAGTCAATGCACCCTTCGTAATGAGCACCAAGGTGATGAGTTAAAATCCGAAAAGTTGTTGATTATGTTT  
GCTTCCAGCCCCGCTAGTGGTTGTGTTGAATGAAACATAATGAGGGAATAGTTGAAGTCTGTACCCACTCCCTCCGTCTCCGTTTCGACAAAACCCCAAACG  
CCTGTCTGTCTCCTCCCTGAAATCAGGAAGGATCTTTGATTTCTTCTGTTCTTTCCCTAATGTGTCTTTAGCAGTGTATGGAGTATTACAATCTCA  
CTGCCTGGTTTAGCATAGACCCTGGGCTGGAGGGAAGTCAAG**CG**GACATCAGTGCCCAACTGAATAATCTGTGTCACTAGGGCTTTGAGCCAGGATGT  
GAGCGGAGGCAATCCCGTTTTGGAAGAAAATCAGACAGGAAACCAGTGCTAGGAAGAAGGAAGAGAAGTCACTCAGCCAGAGTGAATAGGGCCTCATT  
CCGAAGCAAAAAGCAGCTGTTGGCTAATTCCTAGCATGCTGTAACACATGAGTATTTTGAATTAGCAATAACCAGTGCACGGGGTTTTGCGATAGACGCCCTGCC  
CATTCGGCCCGCAGTGTGTGAG**GCGC**CTTTCAAACCGGAGGGATTGGCAAGGTAATGCCACTTGAGACAAGTTTC

**cg25784219** Vaginal 7% (3), Saliva 5% (2), Blood 27% (4), Semen 6% (1), Chromosom 2, FOSL2

**cg25365958 no HhaI cutting site**

TGCACACGCAACCGGAGGTTGAGTAATTTAGGAACCAAGAGTGTGTGTGCGTGTCTAAGTGTGCGAGGATAAGGAGGAAGAGACCAGGGGGCTTTG  
GATTTGTTCCCTCAAACCTCCTCAACTTCTTCTCTTCCGATTCAAACAGAACCCTCTCACATCCCTCAGGGATTCCACCCCGGAATCCCCCTCTCACTCAGAG  
CTCTGGAAGCCTGTGTGGGCTGCCTTTCCCTGGCGTGAATTTGACTCTCACGCCCTGCCTCGATATTTGCTACTCCTTTGTTGACATTGTGAGCCAGTC  
TGAAGCCCGCTCCGAAATTTCTGGCCTCACCATGTT**CG**GTCAACGTGTTCCGATGCTGTTTTCCAGGGACTCTCCGAGTCTGCTCAGGCCGGCCCTCTGC  
CTGTTGAGAGCCGCTAGGTGAGGTGCCAGGGTTGGCTGCTTTTTCTTTCTAGTATATACGCTCTCAGCTCCTTTGCCAGAGTACCTCCTTTGCCAGAGTAC  
GTTTCTCGGCTGATTCTGACCTTTCAGAAGCGTCTTCGACTCTGATCCCTCTGCATCTGCAGCTGTCTTTGCTTTCGTGAATTTGAACATGTGCTGAGGTTGCC  
CATCTGCTCTGTTTCTTCCATTGTGGTTATCACAGGGGCTTAAGTGTCTCCAAATTAATAATA

**cg25365958** Vaginal 7% (3), Saliva 7% (2), Blood 26% (4), Semen 1% (1), Chromosom 13, DGKH

**cg07152894 no Hhal cutting site**

AGGAGTTTTGGCTCAGATTTAATAGAGGACGTGTGCAGTCTTTAGTGTTCCTCGGCCACAAGCTTTAACACTGTACAACTGATTTAGAACACTAAAGCTCCA  
CTGTTTGTATTAGTACTTTATTGACTCAATCCCCTCTCAGGCAGGTGGCCCCGAGGCAGCCCCGTCATTGTTCTGACTGGTTCTCCTCAGTGACACCGT  
GGCCTTCTGCTGAGAGTTCTTTCTTTATTTCTTTCTGGTCTTAAAAAGTTGGCAATCAAGTACAGTTACAGGTGTAGTGTTCATTTTGAAGAGGT  
TTAATTCAGTCCAGTCAGCATTGTCAGCGGTCAAATGGGTTTGTGGTGAATACGGACTTTTCCACTTTCCCTTGGCTAAAGCGAAGGGCTGATTTCTGGT  
GACCGTGAGGAGTGC**CG**TTACTATTGTGGCGTATTAACCTTTCTGAACCTCGGCCTCATTGTGTCAGTGGCTTTCAAGGTGCCCTAATGTATAATTAAGATATA  
CAGTAAGACAGATGCAAAGCGTTTCAAACCTTCTGTGGTGCCTGGCTCCACTATTGATTTGGCCAAAACAAAAAATTTTTCATTGTTTCATTGCAAGAACAAC  
ATCATTATTAACATACACTGTGCAAAGTACATTGTCTAGTGAAGTTTTCTTAGATGCATTGGCTTCTTTGAGCATCACCATAAACTTTTGTGCTGGGTATTA  
CTGCTGTCTTTATCAGACAGGGACAGTGAGGACCGGAAAGGTGAAGTGGCTTGCCACAGTCC

**cg07152894** Vaginal 6% (5), Saliva 5% (4), Blood 26% (5), Semen 1% (1), Chromosom 8,

**Cg24124443 Lin etal 2016 not tested**

GCCTGGTGGGTGGGGACAGACAAGTAGATGACACGATGCTATTTGACACAGGAATGCAGCTAAGCCATGCATATATATATTATATCTTTCTTTAGTCAGGAAA  
GAAGATTCTCCTTTGAGCAAATTTACTCCTTTTAAGAAGGCCGAGCTATTTGGAAAGATGCCACCAGGATGGCAAAGTGGTGCTTGAGCCCTCCCTGCAGCAC  
ACGCCAGGACTTTGAAGCAGGGACAGGGTCTCCTGGTACTGAAAGGAATCGAGTTAAC**GCGC**CCTAGTGGCAGGTGGCGAATGGCCGGAGATC**CG**GCCT  
CCCAGTGGTGTCCACCGCCACGGCTCCGCTCGACAGGCTTATTTCCCTCCATGCTGGAGCAAACCCCGCTGAAAGAGGGCCGCACTAATTGGTTTGCGTAC  
CCGAAGTGGGAATAGAGAGGGAGGAAAACCATGTTT  
CAGGTGTACGGGGGAAAAAAGTGAATGCGAACCCGAGGGGAGAGAGCG

**Cg24124443 (Blood 19%, Semen 1%, Vaginal 4%, Saliva2%)**

Blood nur wenig methyliert

**Cg01543184 (Lee 2015) not tested**

Vaginal 21%, Saliva 9%, Blood 44%, Semen96% >> eher nicht Saliva Marker

**Cg26285698 (Forat 2016) not tested**

Vaginal 42%, Saliva 36%, Blood 10%(minimum 6%), Semen 84% eher nicht Blood Marker

**cg19008649 BL\_chr2\_III not tested**

AGGGTGGGAGAAAATGTTGAAATCAAGAAATTAATAAACAACAAAAACAAAAACAAAAACCCCAACCCCTAACACCTCTTTCTCCACTTTGCCACCTCCTCTTC  
GAAATTCGCAGTTCTACGCGAAGTCCGGAGAAGGGTGAACCGGAGGAGGGTAATGAAAAGGAGCAAAAAGGGAAAAAGCCCACTGCTTTGCAGCT  
CTTTCTAGCTCTTTTCCCTGCAGAAGTTT**CCAAAGAGACTA****CGGGCTC****CG**GGAGAGCAG**GCG**TTTTAAATAGC**CG**GCCCCTGGCTGCCAGCCAGTTTGTA  
GCTGCAATTTGAGCTTCCCAACACCAACTCAGGCAAGGATGCCAAGGAGCTTTGCAGTACAACTCACA**CG**GGGTGGGGTGGGGAGAGGCCCTTCTAGACA  
CAAGGGGCTCCCTTCTGCTCCCTGAACA**GCGC**CCTCCTCCCTCTGAACA**GCGC**CCTCCTCCCCCGGAATGTAAGAAAGGGGCAAGGGGGACAGGCTGGGG  
CTACCGAGAATGGGGAGGAGGTGGAGGGGCCAGTGAAGACAGAGTTCTTCGGAGCAGGGTGAACACAATGAGGAGAGTAACCTCG

**cg19008649** Vaginal 7% (2%, max: 13%), Saliva 9% (2%, max: 16%), Blood 23% (4%, min:18%), Semen 3% (1%, max: 5%)

**cg21032628** (Vaginal 5% (2), Saliva 6% (1), Blood 13% (2), Semen 4% (1))

**cg20952768** (Vaginal 5% (1), Saliva 7% (1), Blood 8% (1), Semen 5% (1))

**cg20419545** (Vaginal 7% (1), Saliva 10% (2), Blood 19% (4), Semen 4% (0))

**cg19675223** (Vaginal 6% (1), Saliva 8% (2), Blood 15% (3), Semen 5% (1))

Produktlänge: 120 bp, 1 Nebenprodukt, 1 Schnittstelle

**BL\_chr2\_III\_for** TM: 64°C, Länge: 20 bp  
CCAAAGAGACTACGGGGCTC

**BL\_chr2\_III\_rev** TM: 64°C, Länge: 21 bp  
CTTGGCATCCTTGCCTGAGTT

Unspezifische Nebenprodukte!!!!

### cg00664416 BL\_chr1\_II not tested

CCTCTGCTTTCATGGCAGGTACAGGGTAGAGCAGCAGCCGTTCTGCTTTTGTGGCTGCAGAGAGGAAAGTGTGCCCGTGTTCATGAAGGCCTCTGCTCTAT  
TTGCAGTTGGAGGTAGTGTGGGGGTTAGAGGCTTTTCATCAAGCACCCAGCTGGAGGGAAGGTCCCAGG**GCGC**CTCCTTCGTAGGCTATGGAGGGGAGGC  
TCACTTATTT**CG**GATTTCTGCTCACTGAATTTTGTGGATTTTACAGATGGCCTCTGCTCAGGGCTTTCTCCATG**CGG**GACGTTAGGGTTAGGGGTGC**TTCTCTTCT**  
TCAGAGGTAGGCCTGTGGCTTCCAGGTGGGTGTGGCACTGTCTCCATTCCCTTTGTTCTACTACTTGTCTGAGGCAGTCTAAAGCCTGGCTCCCTCCGGCCTG  
**GCG****CG**CTACGGTTC**CCCGCAGG****GCGC**CCGCTT**CAGCACCCGGGGCTGGACAGCTCCGGG****GCGC**GAGGCTCTGGGACTCATCTGCAGGAAGTGAACCTGGCAG  
GAGGCTTGTCTCAGGTTTTAGGAACATTTTGAATTGGAGATGTTTGTGAGGAAAAAATCTCTGTTGAGGGGGGACTGTGTGTCTCTGAAGTGGCCTCT  
GTGTTGCGTCTCAGGCGTCTGGTCTGTCTGGTACCCACCTGGCATGGCTGATGATAACGGGGAGCCCTCAGATGA

cg00664416 (Vaginal 7% (4%, max: 17%), Saliva 8% (3%, max: 17%), Blood 24% (5%, min: 14%), Semen 1% (1%, max: 2%)

cg24433287 (Vaginal 14% (4), Saliva 19% (5), Blood 27% (4), Semen 3% (1))

cg04219099 (Vaginal 22% (6), Saliva 31% (7), Blood 39% (5), Semen 6% (1))

cg02851558 (Vaginal 45% (3), Saliva 46% (5), Blood 50% (7), Semen 4% (2))

Produktlänge: 155 bp, 1 Nebenprodukt, 1 Schnittstelle

**BL\_chr1\_II\_for** TM: 64°C, Länge: 20 bp  
GACGTTAGGGTTAGGGGTGC

**BL\_chr1\_II\_rev** TM: 62°C, Länge: 18 bp  
CCTGCGGGAACCGTAGCG  
Unspezifische Nebenprodukte!!!

**BL\_chr1\_II\_for** TM: 64°C, Länge: 21 bp  
TTGAGACCCAGTGGGGTAAT

**BL\_chr1\_II\_rev** TM: 64°C, Länge: 21 bp  
TCATTTGTGGAGCGTTGGCCT

Bl\_chr1\_II\_rev\_new, TM64°C, 19nt  
GGCATTCCCTCAGCGCCCT

PCR Product: 134 bp

### cg14179389 BL\_chr1\_IV not tested

(Vaginal 6% (2%), Saliva 8% (4%), Blood 22% (4%), Semen 1% (0,3%), Chromosom 1, GF11)

ACTTGCTGGAGCTATGGTTTTCCGCAAGTCAACTCACTGATTGTGGACGGGTGGTGTATCTTAAAAGTAACTAGCAAACATATTCTGGATATAACCGGCCCTTG  
ACAGAATCCGGCTGGTCTGCTCATTCTTCCCGCGCCGGGACTCGAGACGCCCCACCCAACGTGTGGTCACTTAGTTTGCCTGAAGCTGGATTGCTCGCTGG  
AAATGAAACCCAGAGAGCAGGCCCTGAGGCTAGGTTAACCCGGCAAACGAAAAATGAAACAGGCCCAATCT**GCGC**CTGTGAAGACCAAGCC**GCGGGCT**  
**GAGATTTTCGTCT**TGCCCTCCCTGCGCCCA**GCGC**CTAGCTCCTCTGCTGGCCGTTCTGCCCTGTTCTGTGTTGAGGTTTGGGGTCTAGATTGCAGGAT  
CCTAGCACTTTATAAAACAGTCAGGTCTGGTCA**GAAAATGAAAGGTCAGCGTTGC**CGCCAGTCGAAACACTGGTTTGTTCCTGCTACTGGCCAGCTCC**GCGC**  
AAACGAATCTAAGCGACAAGCAGCTAGGGTCTGCCGCTGGGATGGAGGCAGCAGCCCCAGCGGCAAGCTGTCCAAGTCC

cg14179389 (Vaginal 6% (2%), Saliva 8% (4%), Blood 22% (4%), Semen 1% (0,3%), Chromosom 1, GF11)

Produktlänge: 167 bp, keine Nebenprodukte, 1 Schnittstelle

**BL\_chr1\_IV\_for** TM: 64°C, Länge: 20 bp  
GCGGGCTGAGATTTTCGTCC

**BL\_chr1\_IV\_rev** TM: 64°C, Länge: 22 bp  
GCAACGCTGACCTTTCATTTTC

### cg10573476 BL\_chr11\_II not tested

Vaginal 8% (3%, max: 15%), Saliva 12% (3%, max: 18%), Blood 21% (3%, min 18%), Semen 4% (1%, max: 6%), Chromosom 11, BSCL2 (GNG3)  
CGGCTCCCGGGGAAAGTCCCGCCCTCTCCCGCGCCGCTTTTGTAGCCGTGGGAGCGGGGCTTCAAGCCAGGGCGGGGTCCAGCA**CG****CGGGGCGGGGCG**  
GGACGGGGCGGAGCCTTCCGAGCTGCGAGGTCTGTCTCTCT**GCGC****CG**CACTGGCTCTCTGCGGCAGGTTTCCCTCCGGTTACCGTGACCAAAGGGG

AAAGACGCTGCCTCCCTGCAGGCCCAAGATGTGCCCCAGGGGATGCGCTGACTGCAGCCTCCGCTCGGCTCTCCCTGAGACTGCAATCACAGCCCTCCGTG  
CACACCTTACCACAGGCCATTTACCCCGGAAGCGGCAGTGTAGGCGGTCCATCCAGCTGGCGCTGATTTTTATCGCCACAGCTCCTAGGACCTGTAGGCAT  
CTAAGCGGGGGCATTTCGCCTAGAGCATGTTGCAGTTTGCGGCAACTGGGCCTCTTGCCTGTTGGCAGGAGATTAGTGCCCTGTTCCACGCGTGGTAGC  
ATTGTGGACCTCTCTGACCCTAAGTGGATACACTCTCCCTCAGAGTCCCCACAGCACATTATCTAGACTAGCTTTTGGCAGTCTT

cg10573476 Vaginal 8% (3%, max: 15%), Saliva 12% (3%, max: 18%), Blood 21% (3%, min 18%), Semen 4% (1%, max: 6%)  
cg16200584 Vaginal 4% (1%), Saliva 6% (1%), Blood 6% (1%), Semen 4% (1%)  
cg15878555 Vaginal 5% (1%), Saliva 6% (2%), Blood 7% (2%), Semen 6% (1%)  
cg25230157 Vaginal keine Daten, Saliva 3% (2%), Blood 4% (1%), Semen 3% (1%)  
cg18522549 Vaginal 1% (1%), Saliva 2% (1%), Blood 2% (0,4%), Semen 1% (0,3%)  
cg13885159 Vaginal 4% (1%), Saliva 7% (1%), Blood 6% (1%), Semen 5% (1%)

Produktlänge: 179 bp, keine Nebenprodukte, 1 Schnittstelle  
BL\_chr11\_II\_for TM: 64°C, Länge: 20 bp  
CTCGGCTCTCCCTGAGACT

BL\_chr11\_II\_rev TM: 64°C, Länge: 21 bp  
ACTGCAACATGCTCTAGGCGA

#### cg24749947 BL\_chr2\_IV not tested

CTTATCATACATCCCTCAAAAAAGAAAAGAAAGCCCAATAAAATTGACAAGTCCATTGTATTACCTTCTCCTCCAAAAGCCAAATTCATGACAACCTTTT  
AACCAAGACTTTTCTTCTGTTACTAAGTGGAAACGTTTTCTTCTAAGTAGCTTTTCTCCATGCAAGCAGCGTTCAAATCTCCAGGGGAAAGGAGGGGTGGGG  
AGGGGGTGGGAGACTATCTGGCACAACCTGGACAGAGCCGAGCCA GTCTAGAACC CGACGGAAGTT ACTGAATCCAGCGGCCCCAGAGGCCACATCTCTC  
T TAGT GCGCCGAGGTTCTAGCCTCACTGTTTTGTTTACAGTGTGAAGGAAGGGTTTTAACTTGGCAAAG TACCGTGCAACATCTGTAACCA CATTTCCTTC  
TGGGGATCGGAAGATGAATCCACATTCCTGGCTTTGAAGCTTTTGAAGTGCAGCTAGGAAGAACCGAGGGAGGGAGGGAGTTGAGCAGAGTTTATTGGC  
TGTCTCTCAGCAGAAAATTCCTCTTGAAGAGATGGATATTTGAGGGTGGGGGAAATTCGCTATCTATCTCTTACTCT

cg24749947 Vaginal 8% (2%, max: 12%), Saliva 8% (2%, max: 13%), Blood 21% (4%, min: 14%), Semen 4% (1%, max: 7%)  
cg19286686 Vaginal 4% (2%), Saliva 4% (2%), Blood 9% (2%), Semen 3% (1%)  
cg23967461 Vaginal 5% (2%), Saliva 4% (2%), Blood 15% (3%), Semen 2% (1%)  
cg01943873 Vaginal 6% (1%), Saliva 5% (2%), Blood 15% (3%), Semen 3% (1%)

Produktlänge: 151 bp, keine Nebenprodukte, 1 Schnittstelle

BL\_chr2\_IV\_for TM: 64°C, Länge: 21 bp  
GTCTAGAACCCGACGGAAGTT

BL\_chr2\_IV\_rev TM: 64°C, Länge: 22 bp  
TGGTTACAGATGTTGCACGGTA

#### cg02676865 BL\_chr10\_I not tested

CCAAAGACTGTGTCATTATCGAGCTGCAGATCGTGTCTGCGGGAAATCCGACTTGCAAAGCAGCAGGACTCTGGGAAAGAAATCTTTATTTTTCCCGCAGGG  
GTTTTTAGAGCTCTCGCCGCTGGGAGTCTATAAAAGATGGGGTGCAGGGGTGAGAGTACACCTTGGGATTGTTGGGATCCTTCCAGCTTTGGGAGTGAGA  
TCGCTCGCTGGTGATCTCCAGGCCCGCGCAACGCTTTCTCACTTTCATGGTACACCCCGCCTGCCCTGGCATTTCGCCCCGGAAGAGGTCTGTCCGGTCAATTT  
TCTGGGTCTTACACTCACTTCTTCTTTGAGGGTGTGCAAGGACCCGCTGGGAATAATATCGTAGACTTGAGAGCTCAAACCTGTCTGGATTCCAGATGGACCC  
ATCTCTACTCTGTGTCAAAGCCAGATCCTGAGAGGTTGAACACCTTGTCAAAGTACACAGCTAGTTAGGAGCTCACCTGGGGCTAGAAGTCCAGCTCCTCT  
CCCACCCATTGCCACATATCCCTTATGTAAGAGGAGCCACAGGCAGAGTTGTTAATGAAGTGGAAACTCTAGTTGGAG

cg02676865 Vaginal 7% (3%, max: 13%), Saliva 6% (2%, max: 12%), Blood 21% (4%, min: 13%), Semen 4% (1%, max: 6%),  
cg17296078 Vaginal 12% (4%, max 19%), Saliva 8% (3%, max: 23%), Blood 35% (7%, min: 24%), Semen 5% (1%, max: 7%)  
cg09773756 Vaginal 0,4% (0,5%), Saliva 1% (1%), Blood 2% (1%), Semen 0,1% (0,2%)

Produktlänge: 141 bp, keine Nebenprodukte, 1 Schnittstelle

BL\_chr10\_I\_for TM: 64°C, Länge: 21 bp  
GTGAGAGTCACCCCTGGGATT

BL\_chr10\_I\_rev TM: 62°C, Länge: 19 bp



CTCTTCCCGGGGCGAAATG

**cg20225915 BL\_chr11\_III not tested**

CGCGACCCGTCCATCTGCCGAGCCGCCGCGCAGCA GCGCTCGGCTTCTGTAGTCCGCGGGGTGGAGCCGTACAGCCTCCCCCGCCCGGAAGGCCACGAA  
ACCCGCCCTTTCCGAGGTTCTCGGGGCCCGGGCCGCTCCGAGGCAGACCCGGCCCCAGGTGCGTTCAGGCCGGGTGACGGGGTACTCTTGCCGCTGCC  
CCGCACCCACCCCTGCTACAAGCCGGAACAATTGCAGTGTCTTTCAAACCAAGCCAAA GCGCCTCCTCCGGGAAGCTGCCAGGACCTCCTCTGCGGCTG  
CAAAGACCTTCCTTTGAGCCATCACTCTGGGCCAGAAGCAGTGAGCCTCTGGCACTGTCTCCTCAATCGCGCAGGGGAGAAGGAGGCGTTAAGAGATAA  
AATATTGAGCGG GCGCGGTGGCTGACGCTGTAATCCAGCACTTTGGGAGGCCGAGGCGGGTGGATCACGAGGTCAGGAGTTTGAGACCAGCCTGGCCAAC  
ATGGTGAAACCCGCTCTACTAAAAATACAAAAATTAGCCGGGCGTGGTGAT GCGCGCCTGTAGTCCAGCTACTCAGGAGGCTG

cg20225915 Vaginal 6% (2%, max: 10%), Saliva 5% (2%, max: 12%), Blood 21% (6%, min: 12%), Semen 4% (0,5%, max: 5%)  
cg19480699 Vaginal 8% (1%), Saliva 9% (2%), Blood 12% (2%), Semen 7% (1%)

Produktlänge: 355 bp, keine Nebenprodukte, 1 Schnittstelle

BL\_chr11\_III\_for TM: 64°C, Länge: 20 bp  
CTCGGCTTCTGTAGTCCG

BL\_chr11\_III\_rev TM: 64°C, Länge: 20 bp  
TCTCCCTGCGGATTGAAG

**cg00113675 not tested**

GAGTCCAGGTGGACAGGGAGTCCAGTTCAGGGACGGAGATCCGGGATGAAAAGTGAAGGGAGAGGGACAGGGCCCATGCCGAGGGTTTCTCTGGTTTC  
TCAGACAGCTCTGGGCCAAGACTCAGGGAAACTGAGACAGA GCGCTTGGCACAGGAGGAGCGGGGTACAGGGCAAGTCCCAGGGCCCCAGGCGTGGCT  
CTCAGGGTCTCAGGCCCGAAGGCGGTGTATGGATTGGGGATGCCCGCCTTAGGGATTGCCACCTCCAGTTCCTTCTTCTCACAACCTGCGACGGGTC  
CTTCTTCTTGATACTCAAGCGGACACAGTTCTATTCCCACTAGGTGTGGGTTTCTAGAGAAGCCAATCGGTGCCGCGCGTCCCGTTCTAAAGTCCC  
CACGACCCACCGGGACTCAGATTCTCCCAAGACGCGGAGGATGGTGCTATG GCGCCCCGAACCTCCTCTGCTGCTCTCAGGGGCCCTGGCCCTGACCCTG  
ACCCAGACCTGG GCGCGTGAGTGCAGGGTCTGCAGGAAATGGTGGGAGGAGCGAGGGGCCCGCCCGCGGGG GCGCAGGACCCG

cg00113675 Vaginal 15% (6%), Saliva 7% (3%), Blood 42% (7%), Semen 4% (1%);  
cg26375284 Vaginal 3% (2%), Saliva 2% (4%), Blood 6% (2%), Semen 0,4% (0,4%)  
cg11246563 Vaginal 8% (3%), Saliva 8% (2%), Blood 18% (3%), Semen 5% (1%)  
cg10262387 Vaginal 8% (4%), Saliva 5% (2%), Blood 21% (5%), Semen 5% (1%)  
cg23130010 Vaginal 8% (2%), Saliva 9% (4%), Blood 17% (3%), Semen 8% (1%)  
cg07017114 Vaginal 8% (4%), Saliva 9% (3%), Blood 16% (6%), Semen 3% (1%)  
cg25590181 Vaginal 14% (3%), Saliva 16% (5%), Blood 30% (4%), Semen 7% (1%)  
cg00157477 Vaginal NV, Saliva 3% (2%), Blood 11% (5%), Semen 1% (1%)  
cg01362455 Vaginal 12% (4%), Saliva 11% (3%), Blood 18% (4%), Semen 5% (1%)  
cg01062395 Vaginal NV, Saliva 8% (7%), Blood 7% (2%), Semen 4% (1%)  
cg02979711 Vaginal 31% (8%), Saliva 32% (11%), Blood 48% (7%), Semen 15% (4%)  
cg03861427 Vaginal 33% (7%), Saliva 38% (7%), Blood 35% (5%), Semen 4% (2%)  
cg13516209 Vaginal 11% (5%), Saliva 6% (6%), Blood 25% (8%), Semen 3% (2%)  
cg23481825 Vaginal 27% (4%), Saliva 29% (3%), Blood 34% (3%), Semen 5% (1%)  
cg23273834 Vaginal 43% (3%), Saliva 47% (4%), Blood 47% (2%), Semen 4% (3%)  
cg20198242 Vaginal 15% (4%), Saliva 16% (7%), Blood 36% (6%), Semen 5% (2%)

**cg17156633 not tested**

GTGAGCCACC GCGCCCGGCCAGGGAGGATCGCTTGTAGTCTAGAGTTCAAGACCAGCCTGGGCAATACAGCGAGCCCCCGCCGCAAAAAAATTGTTTAAAC  
ATTAGCTGGCTGTGATGGGGCAAGCCTGTACTCCGGCTACTTGGGAGGCTGAGGTGAGAGGATCGCTAGAGCCTGAGAAGTCGAGGCTGCAGTGAGTTGTG  
ATCGACCACCTGATCCAGCTCAGGAGGAGGCGGAGACTGTCTCAAAAAAAGAGCAGATTATTAGGAAACGGTAGAAATGCCAGAGGAACTAAAGCGG  
ACCTATGTTTGTGGCTTTGAATCACTGCTGGGAACATGTGGAACACTGCTCAGCAAAGGGGTGTGAGAAAGAAATCCCGGAACAAGTGTCAAAACACCCGT  
GGTCTTTGTGCTTGTGAGTTGGGGGCCCGCCTAGAGAGCTAGCCCTAACTGCTGCTACACTAAAAGCTAATAATCGTTCCT GCGCTACCTAAAGTCAAGGAA  
GGGATCTCAGACAAACGAGGCGACAACAGAGGACTGGGGACACAGCCTCAGGATCCCCAGTTGGGGCGGGGGAGGCAGGAGCGGT

cg17156633 Vaginal 15% (3%), Saliva 11% (3%), Blood 43% (9%), Semen 5% (1%)  
cg09580965 Vaginal 3% (1%), Saliva 6% (2%), Blood 7% (1%), Semen 4% (1%)

cg01237807 Vaginal 6% (3%), Saliva 6% (2%), Blood 7% (2%), Semen 3% (1%)

**cg14263391 not tested**

TGACTGCAGATCGAGGGGCGAGCCATGTTGCTGGACACCACCCTGGCTGGCGCCCTCTCGGCAGGGTGCTCTTTGCCCATGGGGTGGGATCCAGAGCTGCA  
GACAGGCCCCAGGCTTGGCCAATGAACAGACCAGGTTCCGGGAGGGTGTGGAAAAGAGTGGATGGGGTGGTTCCCTTACCTTGACCCCCAGGCCCTC  
CCCCCTCCCTCCAGGTGGTGGGACTCTTGATCTTCGCTCGTGGTACTGTCTGTTCCGCTGTCTCCCGCCTCTCCCCAGGCACCTGCATCCTCCCTTGGCACC  
TGCTGCCAGGCTAGGAAGGGCAAAAACAATCCAGTTGGCGTAGTCAGGGAGTCTCCGCCCTCCTCCAGGTTTCTCCTCCAGGCGCCTCCCTGGACCCG  
CCCCATCTGCCAAGATAATTTTAGTTTCTTGGGCTGGAATCTGGACACACAGGGCTCCCCCGCCTCTGACTTCTGTCCGAAGTGGGACACCCTCTAC  
CACCTGTAGAGAAGCGGGAGTGGATCTGAAATAAATCCAGGAATCTGGGGTCTTAGACGGAGCCAGACTTCGGAACG

cg14263391 Vaginal 27% (8%), Saliva 30% (8%), Blood 52% (4%), Semen 1% (1%)

cg03684977 Vaginal 48% (17%), Saliva 70% (15%), Blood 86% (2%), Semen 29% (5%)

cg08284496 Vaginal 28% (8%), Saliva 33% (8%), Blood 50% (3%), Semen 4% (1%)

cg24967701 Vaginal 14% (5%), Saliva 19% (5%), Blood 33% (5%), Semen 3% (1%)

cg23836594 kein Vaginal, Saliva 14% (3%), Blood 35% (4%), Semen 9% (1%)

**cg25467652 not tested**

GTTAGCAAGAACTCCCCATCCTTGATGTCTCCTCTAGGAATCTCCATTCTGCTCCCTATTCTGCTCTGGCTATAAATCCCTCCTTGGTCTTGTGATTTCG  
GTGTTGAGCCAACTCTCACTCCATGGCAATAACCCTACAGCAAGTCTTGAACAGTACTGGTTAAACAACAGTCCCAATAACGTTTTCTTAAACAACAGCAGTT  
AGCTCATTTAATCCTCATAAGGATCATATGAGGTAGGTAGCCTAAATAGCCATTTACACAGGGAAGTGGGAAGGAGAGAGGGTCCCCCAAGGATGAGACA  
CAAGTGTGGCCACATCAGCACTTTGGCCTGGAGGTCCCCAGTTGCTCTGGTGCAGGCAGTCCGAACAGTCCGCTTCTGGAATATTAGCCAGGCAGGAT  
ACGCCCTGGGCGACAGAACTCCAACCTTCGCCAGCGGCCCAAGTACTGCCTGGGCGGTGGCGGGAGTCTGGAGCTTGGCTGAAGGCGCGAGCTGCCGAC  
GCGCTCTCTAGCAACCAAGCGGCGGTACGTGACCCGCTCCAGCCGTTTACGTGGTCTTGGAGCTGCGCTGGGGTGGAGTGGCCGCAACGCGGGGGGCG  
GGGCGGGGGCCGGCAAGTTTGTCCCGAGTTCGGAGCCTAGGAGCCCCCGCGCTGCGGCGCAGGTGCCCTCGCCTGAGTCGGGATGGAGCTGCCTGT  
GTGAACCTGAAGGTGGACGGGCTGGGGGAGGGTCCCTTTGCGGGAGGAAGTGGGACATTTGCATTTCCCGGA

cg25467652 Vaginal 8% (3), Saliva 6% (3), Blood 32% (6), Semen 4% (0)

cg17350448 Vaginal 6% (1), Saliva 7% (2), Blood 7% (1), Semen 4% (1)

cg06322619 Vaginal 1% (1), Saliva 1% (1), Blood 1% (1), Semen 6% (0)

cg19251740 Vaginal no, Saliva 2% (1), Blood 2% (1), Semen 1% (1)

cg17324198 Vaginal 1% (0), Saliva 1% (1), Blood 1% (1), Semen 1% (0)

cg13862210 Vaginal 0% (0), Saliva 1% (1), Blood 1% (0), Semen 0% (0)

cg20164720 Vaginal 2% (1), Saliva 4% (2), Blood 6% (2), Semen 3% (1)

cg15449870 Vaginal 10% (2), Saliva 8% (3), Blood 28% (6), Semen 8% (1)

cg15527643 Vaginal 13% (5), Saliva 12% (3), Blood 40% (7), Semen 3% (1)

cg21826784 Vaginal 9% (5), Saliva 4% (2), Blood 35% (3), Semen 3% (1)

cg08945450 Vaginal 11% (5), Saliva 7% (3), Blood 38% (6), Semen 4% (1)

cg08425760 Vaginal 20% (7)!!!!, Saliva 13% (6), Blood 45% (7), Semen 5% (1)

cg04444949 Vaginal no, Saliva 9% (3), Blood 31% (7), Semen 4% (1)

**cg17452301 not tested**

AAGCAGGGGAGGGTGCAGATGCGCGCTGGCCTTGCCTGGCAGTTCCTCACAGGTGGGGTGCCTGTGCAAGGCCCGGCCCTGGCTGCTGGGAGTGACT  
CCGCGCTGAGGTTGGATTGGGGAGAGCAGTTGCGCCAGCTGTGCGATTTAAGAACAGTTTACAGCCAGGGAGCCCTGAGTCATGGGGCGTGAAGAG  
GTACAAGCTGTGGGAGCCGTGGGCACATCCCCGGGAGCCCTGGCTTCTGGGTGGGGGCGCGAGGGCAGGGCGGGCGGTTCTCCTGAGAGGCACCTGT  
GCACGGGCTGCAGGACCCATGCGGTGCAGATGAGCTCCTGGACACCGCTACATGGCAGGGAGCTGTCGCTGCCAGATCAATGATTAGGCATGAATCAG  
GCTGTGGCCTCGCTGCGCTCTCTGCAGGGCTTTCTTTGAAACTGGGAGCAGGGAAAGGCTCCTCTTGTAAAGGCCCAACTTTTTCCATCCGTGGAGCCAGATT  
TTTGCCTGGTGACATGAATTAGCAGAGAGGACCGTGTCTTCCACAATTATTTCCAGACGTTATCTCTTATTAGATGTGCCAGAAGCCATTTATCCACAAGT  
CACGTGATTTAACATATGGCTCCCGTGTGGTCTGCGCTCCGTGTGGGCTACCGCTGGGAGTGCACGGGCAGGATGGAGGGACACTCGGGGGTGGAGAA  
TCGCCACCTGGGAGTGCATCCCTCCACCATCGGCCTCAGCTTCTGTGGCGGACAGGGTGGGCTTGGTCTGGTCAAG

cg17452301 Vaginal 8% (3), Saliva 8% (3)(max über min von Blood), Blood 25% (5), Semen 9% (2), Chromosom 10, PWWP2B

cg02372082 Vaginal no, Saliva 2% (1), Blood 2% (1), Semen 1% (1)

cg24646285 Vaginal 4% (1), Saliva 6% (2), Blood 7% (1), Semen 5% (1)

cg11579421 Vaginal 15% (6), Saliva 10% (3), Blood 37% (6), Semen 41% (5)

cg25303150 Vaginal 11% (6), Saliva 4% (2), Blood 33% (4), Semen 49% (6)

cg24085039 Vaginal 10% (4), Saliva 13% (2), Blood 26% (3), Semen 63% (7)

**cg27518898 not tested**

CCTACGTGTGCCACAGATTGGTGACCTGCCGGCATCTCTAGGATTGCACCAACTCCCTCTAGCTCTTCTTGGTGGCCTGCAGGGCCCTAGG**GCGC**ATTCACCTC  
CCTCTGCTTGACTTTA**CG**TGGTGTCTAGCGTCAGACATCAGGCGATGCCGTGCATTACCAAGACACTGGACAGCTC**CG**GATCTTCCCGTCTAACCCTAATCA  
AGTTAAAAAGAGGAAATTAACGCTTTCTTAGTAGTCTCTGAAAGAAACTAGTTATTTGCGTAAAGATGACTTGGTTTTGTGTGTTATCCCTGGGGAGAAGGG  
TAAAGAAGACCCTCAAACCTGGATTGCTGCTGAAGTCTTTAACTCACCTGTG**CG**GAGAGCGGACTTCAAGAGAGGG**CG**TGCCGGTGTCCGGACAAAACCT  
GGGAATACTGAAAGCCACCACCACCACCGTCATTCCAGCATGCAGATCTCAGTCTGGGTTGGTGTGTAGGGCATTATTTATTTGACTTGACG**GCGC**CTTT  
AAAGCTTG**CG**AGGATCCCTTCTCTTCTCGTGTGCATCTGCCAAGCTGTGCC**GCGC**CTCGCGGGTGGACCCGGGCTGGTGGGCGGGGCTGCAGCGGGG  
TGGGAGCC**CG**GTGCGCCGCCCCCTCCACCC**CG**CCCCGCCATCTCCGCTGTTCCCGAAGCCCGCGGACAAGCTCTCCCG**GCGC**GGGCGGGGGTCTG  
GTGCTTGAGGAAGCCCGGAACCCACGCTCCGTCATGGCGTGGAGCCTTGGGAGCTGGCTGGTGGCTG

- cg27518898** Vaginal 7% (3), Saliva 6% (2), Blood 24% (5), Semen 4% (1), Chromosom 21, IL10RB
- cg01928078** Vaginal 8% (2), Saliva 9% (3), Blood 21% (4), Semen 5% (1)
- cg12829325** Vaginal 4% (2), Saliva 3% (1), Blood 7% (2), Semen 2% (1)
- cg10683055** Vaginal 9% (2), Saliva 6% (3), Blood 18% (5), Semen 6% (1)
- cg14607407** Vaginal 4% (1), Saliva 5% (1), Blood 6% (1), Semen 4% (1)
- cg00765428** Vaginal 1% (1), Saliva 3% (1), Blood 2% (1), Semen 1% (1)
- cg07325233** Vaginal 1% (1), Saliva 5% (2), Blood 3% (1), Semen 1% (0)

**cg27424995 not tested**

GGCCGGGTAGCCACGTCTGGCCGGGGCGGGGCCAAGCCGGCCGCCCTTCC**GCGC**CCCGGGCCGGCGGAATGCGTGGCAGCCCCGACCGGGGGCTATTT  
GAGCGGGAGGGGAGCGGCCCGCCCTCGGTGTTTTCGCTTTTTCTGGCCCCGGCCCGCCAGGCCGGCCCTCTGCTGCCCGTGAATGGGAGGGGGGGCG  
GGGTACGTGGCGGGGGAGGGGAGGGCCGTCGCGATCCGGGTCTGGGCTCGGGCTGCCCCGGCCGGGACTGGAG**GCGC**CCCGCAGCGGTCCGGACC  
**TGCGC**TCTCGGACGCGGCTGAGTGGCGGGGTTATTAATAG**CG**TGCCTGGCTCGGGCAGTGGCTCCAG**GCGC**CCGCTACTGCACGCCCTCTCGAGAGAG  
ACTGGCGGCC**GCGC**TCCTCCGAGCGCGGACTGAGGCCTAACTGGATA**GCGC**CACCGTGAACCG**CG**GCAATCACAGGCCTCGATTTCTTACCTGTA  
AATTGGGGTTGAGCTACC**CG**GCTTATAGGGTAGGTGCCATATAAAGTTTTGTTGTGTGTGCTCTCCTTGGGCAAAACGCTGTACAATTGGGGGCCTCC  
GTTTTCTTATTAACGAAGGGTCTGAAAAGGCCCTCTGAGGGAAAGCGTCCGGACATCTGAACAATGCGTTTTCTACTGACCAC

- cg27424995** Vaginal 7% (5), Saliva 1% (1), Blood 23% (7), Semen 1% (1), Chromosom 1, AHDC1
- cg27543538** Vaginal 20% (6), Saliva 13% (3), Blood 39% (5), Semen 6% (1)
- cg15072832** Vaginal 13% (3), Saliva 13% (3), Blood 25% (4), Semen 8% (1)
- cg11657615** Vaginal 12% (3%), Saliva 14% (3%), Blood 31% (6%), Semen 7% (1%)
- cg00420361** Vaginal keine Daten, Saliva 7% (2%), Blood 9% (3%), Semen 5% (1%)

**cg01022567 not tested**

GCACGAAGCACGTACGCCCTTGGTGGCCGTGGCGGGGACTGCC**GCGC**GGACTCCGAGCCCCGCCACCCCGCCCGCCAGCCCAATCCCACCCGCTCCGC  
CCTGCTGCCCTGCTGCTACCTACTGGGCT**GCGC**TGTCCACGCTGGAGCCCGGACGTTCACTTCCGCGGAGGACAGGTGTAACCCACAGAGTGATTCC  
TTTACCGGGGCTGCTAGGCTCCGGCCACGAGGCAGGACTGGCGGTTTCA**CG**TCTGGAAGTCAAGGCCCAAGGGGACCGAG**GCGC**TGCCAGGCTC  
CCCTGACTGCCAGCTCCGGCCTGGCCACCCAGTCCGCCCCAGGGACCGGACTGGT**GCGC**CGTCCACCTTCCAGTACTGGAACATTCTCC**CG**GATTGGGA  
GGTTCTGGGTTCTGCCCTAGATTCCCAAGCAAAGTTGCTCTTTGCTCTTGTCACTTGCAGCTTCTGGTTTTTGTTTTTTGTGAGACGGAGTCTCGCTTTG  
TCGCCAGCCTGGAGTGTGT**GCGC**AATCTCGGCTACTGCAACCTTACTCCCGAGTTCAGGCGATTCTCTGACTC

- cg01022567** Vaginal 8% (4%), Saliva 11% (3%), Blood 21% (2%), Semen 2% (0,4%), Chromosom 7
- cg23616524** Vaginal 28% (7%), Saliva 41% (6%), Blood 51% (5%), Semen 9% (1%)

**cg05127217 not tested**

TGCTGGCAACAGTGCCTGCGCCTGGCCTCTTT**GCGC**CGCGGGCA**GCGC**GCGTCTGGGGCAGGCTCC**GCGC**GGGCTCGGGCACAGGTCCCCGCTGCCG  
CAGCCCTACCGAGTGAAGCACTGA**GCGC****GCGC**CGCTTCCGATCACCTGGCTCTGGCCCTCACCTAGCGTAGGGGGGACTGGCCAGGCAAGTGAAGACC  
CTGAGATCCATGCCCTGGGAGACAGAGTTGTCTCTGTCATGCACCC**GCGC**GCCTGCCTTCTAACCTTCTATAC**CG**TTGGGAGATTAATTACTGGACTAGGC  
CTCTGTTCCGTGGGAGTTGAAAAGATTTGACCTGGAAGAAACCTAG**CG**GATTATTCAGTTAAGCCGAACCCACCCCTGTTTTATATAGGTAAGGGTGTCTCA  
CGGTGAGGACTCGTCGCTGCTGGTGTACATCAGTCCCAGAATAGTCTCGTAGTTTCTCTTACTGTTCCCATAGTATGGGTGAGGACTCTGAGGCTC  
GGAGAGGTTGTGAATTTAGCCAGAATCACACAGCTTGAACCTGGTGGAGATGAGGACTGAGACTCGATTAATCACTCG

- cg05127217** Vaginal 7% (2%), Saliva 11% (3%), Blood 21% (3%), Semen 4% (1%), Chromosom 11, TTC12

cg13356117 Vaginal 1% (0,4%), Saliva 1% (1%), Blood 2% (1%), Semen 1% (0,3%)  
cg16302655 Vaginal 32% (19%), Saliva 48% (13%), Blood 66% (6%), Semen 1% (1%)

#### cg03784054 not tested

AGCGAGGATTAGATCTGAGTCTTCCCTGCCCCCTGCGACACCCACCTCCGTGGTATTGGAGGGAGGAGAGGAATGATAATTGGGGGCTGAGGTACAAAATACTCCA  
GCGGGACAAGGAGGACTGGCATAGCTCCTTCTCCACCGCCCTCTCCGGCTTGGGTCTGTGACTGCGGCGGGAGAGAGGAGCAAGGTGAGCCGCCAGGG  
GTCTGGGTTTGGGTGCGGGTGAGGGGAGGACTCAGGACTCTGGGCTGGGTCCCGCTTGAGAGAAGCGGGCGGGAGGGCGGGTGGTACGGCGGCC  
CTCTGCGTCGCCCTCGGACTCAGCCCTGGCCAGGCCCGGCCGGGGAGGCCGCTGGCTCCA GCGCGCGGGCCAGGGAATGTAACCAGCTGACCAGGGAG  
GGGGCCGGCAGGAAGTGAGGCCACCCGACAGCTCCGCCGGTTCGGGGTGGGGGCTCCGGGGCTGTGCCGCTCCCTCCCTCTATACGCTTGGGCAGC  
TGCAGATGACGTCAGCCCGGGTTGGGGGCGAGTGCCATGGAGACAAGGACAGGCTCAGAAGGGACCCCTTCTCCCTGCAGCCGCC

cg03784054 Vaginal 7% (5%), Saliva 4% (3%), Blood 20% (5%), Semen 1% (1%), Chromosom 16, FAM65A (RIPOR1)

## Semen marker

### Sperm\_chr2\_l cg17610929 (Park, Lee, Lin)

ATCAGGTGGTGGCTGGGTGCTGGAGTCAGGAGTCTCAGAGGCCAGGAGGTGGGGGATAGAGTTGGCTGACCCTTCATGGGGTGTGGGCCAGGAAAGTGG  
CAAAGAATGAGCTGAGGACCTGGGCACGGCACCTTCCCTGGGTGGCCAGGAAGTGGGGAGATCTGGGGACCCAGTGAAGCGGCTAGGGTGCAGCAGGAGT  
TTGGGGGATAGCCCCAGTCTTGGGATCTCTGCTGGGCTGGGGACTGCCCTCCCTGGCCTGGCTCCTGACCGCCGTGCTGCCGGTGAAGCGCTGTTGACA  
TGTCTGAATTATTAAGCGTGGGGAGGGCTCGGAGCACATGCTGAGCGGAGCGGCTGGGGCTGCGCGGGCTGGCGGAGCAGCGCTCGCTCCCTCGCTACT  
CGCTCGCTCGAGGGACACACGCAGGGGCTGACAGCTGTGCTGGTGTGATAAGGGAAGCCACAAGGAGAATCGATCGAGGAGAGAGACAAGCGGCAGCAGA  
GGCAGCAGCGGCAGAGGCAGCACAGGGCTGGGAGTCTGGGAGTGGGAGTACTCCCCACCTCGGGCCCCACCTGTCCCTGTCCCTT

cg24743778 kein Vaginal, Saliva 3% (2%), Blood 3% (1%), Semen 97% (1%)  
cg17610929 Vaginal 0,5% (1%), Saliva 1% (1%), Blood 1% (1%), Semen 98% (1%)  
cg09726982 Vaginal 1% (1%), Saliva 1% (1%), Blood 2% (1%), Semen 93% (4%)  
cg18844301 Vaginal 5% (2%), Saliva 7% (1%), Blood 8% (1%), Semen 94% (4%)  
cg10515731 Vaginal 1% (0,4%), Saliva 1% (0,4%), Blood 1% (0,4%), Semen 95% (5%)  
cg19210770 Vaginal 4% (2%), Saliva 8% (3%), Blood 6% (2%), Semen 97% (2%)  
cg18395327 Vaginal 2% (1%), Saliva 2% (2%), Blood 3% (1%), Semen 97% (2%)  
cg12046414 Vaginal 3% (1%), Saliva 6% (2%), Blood 5% (2%), Semen 84% (2%)  
cg21767952 Vaginal 23% (7%), Saliva 26% (5%), Blood 16% (3%), Semen 78% (3%)

Sp\_chr2\_l\_forw: TM: 68°C, Länge: 20 bp

Sp\_chr2\_l\_rev: TM: 66°C, Länge: 20 bp

Alternative Primer

Sp\_chr2\_l\_forw\_varia

GCGGCGTGGCGGAGCAGC

Sp\_chr2\_l\_rev FAM

TGCTGCTCTGCTGCCGCTT

PCR Produkt 144bp

Products on target templates

Sp\_chr2\_l\_forw

GCACATGCTGAGCGGAGCGG

PCR Produkt 174bp

Sp\_chr2\_l\_rev FAM

TGCTGCCTCTGCTGCCGCTT

### Sperm\_chr5\_l Cg07485723 (Lin 2016)

GACCCCCACAGGCCAGGTCTGGGTAACGGGAGCCCCGCCTCTAGCCCTGGCCACGAGGCATAGTGAAGCTGGAATTTGTTGGGAGTTTTTTGTTCTGTCTGCC  
ACTCAACCACAGGCTCCAAGTGGGGAGGGACCCCTGGATGTGTTTCTGCTACCGTATCCCAAATGCCGAAGCGCCTCGTACATAACGAGAACACAGTAAATA  
CCCGTGAATGGATCAACAACGGTGAAGGGAACGATTCTCTGAATGAACTCCATCTGCTGGCTCTCGTGCCCGCCAGGGAACACTAGAGGCGCGCCTTGA  
CCTGCCGAAGGCTGCCTCCAGCCCTGGCGGACTCTTGGCGTGGACTCCCGCCCTCGGGCCACAGCCTGGGCGATACGCCAGGACGCTGGCCATTGAGGATGCA  
GGCCAAAAGGGGCGCCTTACGCTCACAGGCTTCCCTGGCTGGCATTGTAATGGACAGAGCAGTGGGAACGGTCCCTGAACCCAGT

Cg07485723 (Vagina1% Saliva 1% Blood 2% Semen 96%)

cg06449486 (Vagina1% Saliva 1% Blood 2% Semen 90%)

cg05975527 (Vagina1% Saliva 1% Blood 2% Semen 87%)

Sperm\_chr5\_l\_forw: TM: 64°C, Länge: 21 bp

Sperm\_chr5\_l\_rev: TM: 64°C, Länge: 21 bp

### Sperm\_chr7\_l cg05261336 (Lin 2016)

CAAAGTCTAGGGTGTCTGAGGTGAGTGCATCGGGTAGCTCCTGCTGCATAACAAGCGGGGGAGGGGGTGGCCCATGGCTCTGGACTGCTGGGCCACAG  
GGGTGATGAGGTGAGGCTTGGAGGAGTCTGTAGGATCCTAACTTTGATGACTATTCAGGGTTTGGAGGCTCACTCAGCTTTATCGCCTGTGAAACCCACGCAG  
CCAGCAGGGGTACGAGTGTCTGAGTCCAGTGGCGGGGGTGGCCTGACCCAGACAGGGCAGGGGACGGCAGCTGGAAGCGCTGGAGAGAAGCGCC  
CGTTCCCTGGGAGCCACTGGAGGCGCATGGCACACGGCGCCCGGCCAGGGCTGACTGTGACTGGAGCAAGAGCCGAGGACTGGACGGACGGCAGGTG  
GCGCCACCTGATCTGTGACGGGACAGGCAGGGACAGGCAGGCAGAGAAAGAGCCAGCTGGAGGCTGCCAGCGCTCCAGGGAGAGGAGTGGGGAGCGGCAG  
AGCGCCGCGCCCGGGCTGGAAGGTCAGCTTGAGGCTCTGGGATGTGAACACTGGGCACCGAGTATCCAGAAATAAATCCAGGCACGGTGGGAGGCC

cg05261336 (Vagina1% Saliva 1% Blood 1% Semen 95%)

cg24187253 (Vagina15% Saliva 18% Blood 12% Semen 87%)

cg17120143 (Vagina8% Saliva 8% Blood 8% Semen 79%)

Sp\_chr7\_SE-l\_f aus Lin et al. 64°C, 21nt

GAGGCTGCACTCAGCTTTATC

Sp\_chr7\_SE-l\_r aus Lin et al. 64°C, 20(1)nt

FAM-(A)GCTCTTGCTCCAGTCACAGT

Sp\_chr7\_IB\_r, 66°C, 21nt

CTTGCTCCAGTCACAGTCAGG

Sperm\_chr7\_l\_For: TM: 68°C, Länge: 20 bp FAM

Sperm\_chr7\_l\_rev: TM: 68°C, Länge: 20 bp

### Sperm\_chr8\_l Cg26763284 (Lee 2015)

AGTGGGCTGCTCGGGCCCTCTTCTGGTGGGGACAGCAGGGGGAGGCTGGGAGGGAGGGAGGGTGTGTGCCGAGGCCGCGGGCAGTGTGGGGGGCTGC  
GGCTTGGCCAGGCGTGGGCTGGCCCTCTCCCGCGGGTGTGGCCGCGGGGACGCAGGGGTTAAGGCCAACTAACCTTGAGCGTCAGTAGCCCTGCGCAG  
GGACAGTGTAGCGCCGGTGGGAGCGAGGGTGGGGAGGCGCGAGGGCCGACCCGCGAGGGAGGAGAGAGGAGGGCGGGCGGGAGCTGTTGTG  
GGGCTGCCGCGCGTATGGGGCGGTCTGGGGCAGGGCAGGCTCCGGTCCCGCGCTCCCCCTCGCTCGCCCTGCACGCAGGGAGGGGGTGTCTAGCCTG  
GAGCAGCCGGTTCCAGCGCAGGAAGGGCAGCCCTGGCGGCTCCGCTGGCGGCTATGGAGCCCTCGGGCAGCCTGTTTCCCTCCCTGGTGGTTGTGGGTCA  
CGTTGTACCTGGCGCTGTGTGGCACTGGCGAGGGGACGTGGTGGCGCGCAGGACGAGCAAGGTAAGCCCCGCTGGTGGCTGCCAGGGACTCGAG

Cg26763284 (Vagina1% Saliva 1% Blood 2% Semen 98%)

cg10319395 (Vagina4% Saliva 11% Blood 5% Semen 97%)  
cg23715237 (Vagina5% Saliva 5% Blood 7% Semen 93%)  
cg21550172 (Vagina3% Saliva 4% Blood 4% Semen 91%)  
cg20154947 (Vagina3% Saliva 3% Blood 5% Semen 80%)

Sperm\_chr8\_l\_forw: TM: 62°C, Länge: 20 bp

Sperm\_chr8\_l\_rev: TM: 56°C, Länge: 16 bp

Sperm\_chr8\_l\_rev\_alter: TM: 66°C, Länge: 19 bp

Sp\_chr\_8\_IB\_f, 18nt, 64°C  
GGTGGGGAGCGAGGGTGG

Sp\_chr\_8\_IB\_r, 19nt, 66°C FAM  
GGAACCGCTGCTCCAGGC

### JT.1 (Muc1.1) Teschner

AGGGCGGGGAAGTGGAGTGGGAGACCTAGGGGTGGGCTTCCCGACCTTGCTGTACAGGACCTCGACCTAGCTGGCTTTGTTCCCATCCCCACGTTAGTTGTT  
GCCCTGAGGCTAAAAGTACAGCCAGGGGCCCAAGTTCCAGACTGCCCTCCCCCTCCCCCGGAGCCAGGGAGTGGTTGGTGAAGGGGGAGGCCAGCTG  
GAGAACAACCGGTAGTCAGGGGTTGAGCGATTAGAGCCCTGTACCTACCCAGGAATGGTTGGGGAGGAGGAGGAAGAGGTAGGAGGTAGGGGAGGG  
GGCGGGTTTTGTACCTGTACCTTGCTCCGGCTGTGCCTAGGGCGGGCGGGGGAGTGGGGGACCGGTATAAAGCGGTAGGCGCTGTGCTCCGCTCC  
ACCTCTCAAGCAGCCAGCGCTGCTGCTGAATCTGTCTGCCCTCCCCACCAATTCACCACCACCATGACACCGGGCACCCAGTCTCCTTTCTCTGCTGCTGC  
TCCTCACAGTGTACAGGTGAGGGGCACGAGGTGGGGAGTGGGCTGCCCTGCTTAGGTGGTCTTCGTGGTCTTTCTGTGGGTTTTGCTCCCTGGCAGATGGC  
ACCATGAAGTTAAGGTAAGAATTGCAGACAGAGGCTGCCCTGTCTGTGCCAGAAGGAGGGAGAGGCTAAGGACAGGCTGAGAAGAGTTGCCCAACCCCTG  
AGAGTGGGTACCCAGGGGCAAGCAAATGTCTGTAGAGAAGTCTAGGGGGAAGAGAGTAGGGAGAGGGAAGGCTTAAGAGGGGAAGAAATGCAGGGGCCA  
TGAGCCAAGGCTATGGGCAGAGAGAAGGAGGCTGCTGCAGGGAAG.....

GCGC = Position 155162682 hg 17 in NCBI

Primerpaar 1 | Primerpaar 2 = aktuell

HhaI Bindesequenz

CpGs

Protein-Startcodon (Sequenz ist anti reverse zur NCBI, Start Codon ist korrekt!!)

cg22500132 (Vaginal 15%, Saliva 3%, Blood 6%, Semen 69%)

cg22531371 (Vaginal 16%, Saliva 7%, Blood 11%, Semen 49%)

cg18804777 (nicht mehr zu sehen, überall methyliert)

TGAGGTGACATCGTGGGCTGGCGGGTGGTGGAGCCAGGGCTGGCCTGGTACTGGGAC[CG]AGGTGACATCCTGTCCCCAGGTGGCAGCTGAACCTGAA  
GCTGGTCCGTGGCCGG

### L6 Wasserstrom

GGGACAGCCCTGGATGTCTAGTTCCTCAGGCACGTGTGCACACATGTGTGCTGCGTAGCACTGGCACCCATTCTGTCTGCCAGGTAGTGGTGCATTCC  
CCGGTGTCTACCGCTCGACCCCCAGCAGCAGAGACCTCACAGAGGGAGTCACTAACGTGGTTCGCGCTCCAGAGCGAAACCCCAACCACTATGCTC  
ACAGCCAGGACCGAGCAGGCTGGGCCAAGGCAGTCCCTGCCAAGCGCCCGGCTCCCTCCGAGTGGCCAGCAGCGCCCTCTGGTGGAGACTGGCTCGGCCTC  
CGCGGCACTGCATTCCACGGCAGTGGTCCAATCTAGTCCCAAGTCTAGAGGAGGCCCTCTCTCCCTCAGCCCTGGCAGGGTCTTGGCGCCATTCTCCA  
CACCTGCACTCCTTGGCCCTCCAGGAATTACCGGCTCAGGGCGCGCTCCTGGAAGCAGAGAAGGGGAGCTGCTGGACCTTCTCAGAGGCACAGCCTTACA  
GAGGCACAGGGGCTTTGGAGCAGAGGAGGCTGCCACTTATCAGCCAGACGGCCTGGGCTCAATTCCAGCTGCAGGGCCCTGG

cg10043090 HCCA2 (Vaginal 24%, Saliva 45%, Blood 57%, Semen 93%)

cg15639910 (Vaginal 7%, Saliva 7%, Blood 8%, Semen 80%)

cg08029231 (Vaginal 34%, Saliva 45%, Blood 57%, Semen 85%)

### L7 Wasserstrom

GAGGCTAAGGGGGCACACCTGGGGTAGGAGGAGTCTGGGAAGGAAACTCAGCTGAAATGGTTTAGGCCTCAGAGCCACATCCTGTGGGAGGGGCTGTC  
AAGGGGCTGTGTCCCGTCTGTGCGAGTCTCAAAGATGTAGAGTACAGTCTCTAGGGGTAGAGATGGTGTCTCCAGGAGAAGGTGGCCCGGA  
GACTTGGAGGTGGGATCAATCCTGCCAGTCTGGATCAGGAGGCTCTGTGGGCGCGCCCTTCTCCTCATAGCAACAGGCGGGCGCCGAGCCT  
CATAGTCAGCCTCATCCACTGACCAGCAGGCGAACAGCCTCCCGGCCACAGCCTCTCGAGGGCTCAGTCAAGAACAGCCCGCGAGGGCTGCGAGCAG

GGCGC CACTCAGGTAGTCGCCCAAGAGGCGTCCAGATAGGAGAGCTCTGAGAACTTGATGTCACAAACCACAGAGCCCAGGTCCTTGTAGCGCAGACTGC  
GGTGGCTGCCAAACACGTCCAGCTGCCGCGCCAGCGCTGGGGCCCGGGATGCCACGCCCTGCTCCAAGGCTGGCCATGCTCGCA

cg11721464 (Vaginal 49% (Min 4 % max 79%), Saliva 6%, Blood 6 %, Semen 89%)

cg14013103 (Vaginal 51%, Saliva 21%, Blood 11 %, Semen 78%)

cg14189583 (Vaginal 44%, Saliva 11%, Blood 10 %, Semen 80%)

L7\_for

AGCCTCATCCACTGACCAG

L7\_rev

GTTTCTTCAGAGCTCTCTATCTGGAC

### Cg23521140 (Park 2014) no HhaI cutting site

AGAGTTTGATAGAGAGGAACCGGGAGAAGAGAGAAGGCATGGGATGATGAGGAGGGAGAAAGTCCCCTCCACTTCTGCCTCACCTCCCAGGAAGGAACTA  
GTCCATAACAGGGAGGCAGGAAATGTAACCTCCACCTGGAGTTTCCCCTGTTGACAGATGGGGGAGGAAGTCATGGGGATGAGTCAGAAACTTTTGAGGG  
AGGCTTTGCTTGAGAGCTGCCTATGCAAATTGTCTTGGGCTTCTTTTCTGCCACAGAGGAAACAGACTAAACCTAAAGGCTTTGCTGGTACACAGAAGCCAAA  
AGGAGATCAAGTGTACTATTCCGAGGTCAGGTTTCTCGCTCGATGCCTGAAGGAGGTTCAACACCCCTCCTTCTGCTACTCCTTCTGGCCTTCTGCCCTC  
CACCAATTCTGTCTCACCCACAAATCCTACCAATGCAGAAAAGTACTCCATACTGTGGTTCTTATTCTTTTATTTCATAACCATATTTCTCATCTCTTCC  
CTGGGACTTCTCAAATGTCTTCTTTGAAGGAGAGAGATGAGGAGGAGGCAAGAGGCATACCTAGGGAATTCCTGGAGTTCAACTGAAACTTGTTCAGT  
TCTGTTTCTAAGTACCATTTCCTGAGGGCAGCACTTTCAGAACCTACTGGCAACTGAAGTCTAGATCCCCACTC

Cg23521140 (Vaginal 1%, Saliva 1%, Blood 1%, Semen 97%)

### cg23324953 no HhaI cutting site

CGCAGGGGCCCGCCTGCCTGGCGGGGGTGCCTGAGGGGAGCCCTGCTACCTTTCTTGGCCTCAGAGGCCCTGAGCACAGCCAGGTACAGGTTGCTCCTCGAG  
CTGTTTCTTTTTCGGCCAGGCCCTCGGGCTCGGCACGCGGAGCTGGTGCTGAGACATGCTGCCCCACACCTTCGTGCCCCGACCCTCGGCCTCAGGCACG  
GTGCTTGGGCAGCCCCGTGTGGCACACAGGCAGCTGAAGGCTGGCGGCCCAAGAGCCTACTCGGCACAGGCTCAGCTCAGAGCCCCAGTCCGGTGGC  
CCACTCCTGCTGTACTCTCCCGGCGAGGCCGCCCCGAGGCCCACTGCCCAGGCCCGCCAGGGAGGGAGTGTCCCGGGGGAAGGAG  
CAAGCAGCCCCCTCCCCACAGACAGCCCTCGGCCGCCAGAAACAGGAAACCGGGGTTTCTCACCCACCCCGACCACTGCAGCCCCCTAGGGGGACCTGG  
GGACACGGGGAGCTGGCACTTCACTGCACACCAATGGTGCCAGGACCCGAGAGGAACACAGGCCGTCCCCACAGCCACCCAGAAG

cg23324953 kein Vaginal, 1%, 1%, 97% (1%, 1%, 2%)

### L5 Wasserstrom not tested

>seq\_24464 701 bp

GAGACATAGGACAGACAATGACTACCAAGCAGCCTTCAGCCCCACTGCCTGAATCCCCGAGGGGTGTGTAGGAGAGAGGAAGAGCTTTGCTGCCTCACCCCT  
GGGTGATGTTCAGGCTAGCCTGGTGGCGGAGAGGGGAATGGCAGGTCCCCGCTTCGCTACCTTGGAAATAAGCTCATCGTGTGGCCAGGTGTGCAC  
GGCAGTGGACACAGCTGTAAGTGCGGTGACAGCGGGGCAGATAGCTGCGGAAAGTCTTGGTGGGGAGGCAGGCAGGGGCCCGACCGGGGTACAGCTGGG  
CATGACCGGCTGAGGACAATGCCCTGGTGGGCTGGAGGGGCTGGCGCGTGCAGCCCCGCAAGAGACGGTTCGAGGTGAAGCAGCGGAGCAGGTTGGCT  
AGAGCGGTGTTTCAGGGCAGGAGAAGTGTGGGGGGTGCCTGGCCAGGGCCCCCAGACGAGAACCAGATAGAAATAGAAGTCACTGGGAAGAGGGG  
AAAGGACATCAGGGGAGCTGCGACCTCAGGAGGACCCCTCCTGAGGGAATGGAGGAAAAGGGAATCAGCTCACCCATACCTTACTTTCCCATCACCATCGA  
CCCCCACAGCATCCAGTTGCATTGTGCCCTGTCCCTGGATCCCCATTCTGCTCTGGCAAACCTGGCAGCCGATCCAGGCTTCTGGCGC

cg27368025 (Vaginal 24%, Saliva 21%, Blood 38%, Semen 87%)

cg10366093 (Vaginal 6%, Saliva 4%, Blood 14%, Semen 98%)

cg15363887 (Vaginal 8%, Saliva 12%, Blood 12%, Semen 91%)

cg03631561 (Vaginal 10%, Saliva 11%, Blood 19%, Semen 88%)

cg11324116 (Vaginal 12%, Saliva 13%, Blood 25%, Semen 92%)

L5 Forward

TAGCTGCGGAAAGTCTTGGTG

L5 Reverse

GCTTACCTGCGACCGTCTC

Produkt: 142bp

Blast: keine Nebenprodukte

### Cg05656364 (Forat 2016) not tested

(Vagina 20% Saliva 3% Blood 3% Semen 89%) semen?

### cg14061378 not tested

CCTCAGAGTGTGAAATGTGGTGACAGCGGTGCCGCTGGTGTCTTGCAGGATCTGGCAGTGACCCGCGGGCAGGGCCCCCGGACGGCCCCCTGCGGAGG  
GCGCAGCCTTGCAGGTGGGGTCGGAGCACAGGGTCCAGGGTCCAGGCCCACTTCCCAACCAAGCCAGGTCTCTCCGCCCTCTCCTCGAATCTTAAGA  
GCCTTTGGAGAGAAGCCACGCAGGGCGGGACGCACAGGCTGTAGGGTGGGAGGGGTGCGTGTCCACGTGCAGGGAGCCCCGCCAAGGCTGGCAGCAG  
CAGGGTAGAGGCCACTGGTCCGGGGCAGCTTCCGCGGGAAACACCGCCGCGCTGTGAGCATTGGGGAACTGCAGCCGCCGCCCATCTGCCGGTTCGGG  
GTCGTTGGGGGGGGCCCCATGCCAACGGCCACGGAGGCCAAGGACCCCGGAACCCCTCGCCTTTGTCCAGGAGAGGCTCTCACACCCTCGGTGCCAGGG  
CCCTGGGAGCCCGTGAGACCAGGGTCTCCCTGCTCAGACTTCTCTGTGGCTGGAGGGGACAGTGGGGGTGACAGGCACTGACCACCAGG

cg14061378 kein Vaginal, Saliva 1% (1%), Blood 2% (1%), Semen 97% (2%), Chromosom 9, LOC105376325

### cg02543772 not tested

CCCCTTGAAACTCCAGCCCTTTGTCCAGATGGGGATGGAGGTGGCCAGGCTGCCCGTTGATTGTGTGCCGAGGAGCCCTCCCGGGAAGGCTGTGATT  
TATACGCGCAGGCTTGTACGGGGTGAAAGGAAGGGCCACTTTTTTCAATTTGATCCAATGTTAGGTTTGAAGGCCACCCACTGCTGTAAACTCAGCTGGATCCG  
CGGGCCGTGATTAACACATTGCCGCTTTGTTGCCGAGATGGTGTTCGGAAGGCGCTGTGAATGCACTTCCCTTTGCGGGCTCACACAGACAAGATGTGTG  
TTGCAAGGATGAGGCGCTGCTCGGCCCTCAGCCAGGGCGGGAAGGGAGAAGGTGCTGTGCGTGCCTGTGTGCGCCGCGGCTCTCTCCAGCGAC  
AGACTCCAGACTCTATGCTGTCTGCTTTTCTTTTACCTCCCTGTCCCTACCCGGTTTTCTAGCCTTTGAGGGAAGTGTTCAGACTGTTGGATTGAGACTGT  
TAGTGCCATTTCCCGCAGCGTGGACAAGTGCACAGTGGCAACTTGTGACTTTCCTTAGCTGCTCCTGCAGAATGGGGT

cg02543772 kein Vaginal, Saliva 2% (1%), Blood 3% (1%), Semen 97% (1%), Chromosom 12, TMEM132C

cg25254825 Vaginal 6% (1%), Saliva 9% (1%), Blood 9% (1%), Semen 85% (2%)

cg06613286 Vaginal 21% (4%), Saliva 31% (9%), Blood 23% (5%), Semen 91% (2%)

### cg04560810 not tested

TTGAAGTGTCTGTGCAGCCGTACCAACCAAGAACCCTTGGGGACCTGGGTTCCCTGTCCCGGAACCCACCCAGGGAGGACCTTAGTCAACAAAGTGG  
AAAACAGAGCTCAGGGAGTGGGGACAGGGCAGCCAGCAGGCACCCCTCGCCTCTGGGTGCCAGGGGCCCTAGGTTTGGCGTCTGCCAGGCTGATCTTGAG  
CCTACCTTCTGCCTCCCGGACTGGTGTCTGGATGATGAGGAGGAGAAGGCCGCGCTACGAGCAGCCAAGGGCAGCTTCTCTGAGTGCAGCCTGAA  
AATGAGATGTTAAACAGATTGGTTTCCCAACAACCTTAGCCCTGGGTTTCTCAAACCGCAGCTTACTGGTGTGGGAAGGAGGGTATTTCTGTCTCTC  
AGGAAGGGAGGTAGGAACCTTCCCTCAAAGCCCTGATGAGCTGGGCCTGAGTCTGGGGTCAAGGGGTGAGTTTGAAGAAAGCCTCCATTCCATTGCCCTTGC  
TACCCCAACCAAGGGTGTAGAAACACTCACCGCAGTACAGCTGTAACAGCGGGTCCCTCAAGCCACCACGATCAAAC

cg04560810 kein Vaginal, Saliva 1% (1%), Blood 2% (1%), Semen 97% (2%), Chromosom 5, STING1 (TMEM173)

cg03317505 Vaginal 5% (1%), Saliva 5% (2%), Blood 8% (2%), Semen 84% (2%)

cg14655316 Vaginal 5% (1%), Saliva 6% (2%), Blood 9% (2%), Semen 88% (3%)

cg16532438 Vaginal 5% (1%), Saliva 5% (2%), Blood 7% (2%), Semen 87% (3%)

## Non Semen Marker

Non semen marker L3 Wasserstrom et al.

chromosom 11 Gen: ARAP1 (ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 1)

TTCCCCACCCCGCTGGCTGTGCCTCTCATGGTGGGTGACAGCAGTCCCTGTGCCCTCAAGTCAATGCAGGCCAGGCATTCAACCAGGGTAAGGAAC  
TCTCGGTCTCCAGGGCCCCTGGCTGTATGGAAGCGGCGATGGGAATGAGAAGCAGAGGCAGGCACTGGAGCCTGTGGGTAGGGTAAGCCTAGTGAAC  
TGCCACAAGGGAAGGGCGCAGGAGTCCGGAGGGATGGGTGGAGGAGGAGGCTGGGCACGGGCTGCAAGGGCCACTGAGGCCTCCAGCCAGGTTAG  
GCGCTGGGCGCGAGTGAAGAGCCATCAGGCAGGTCGCGCAGGAAAGCGCTTGAAGCGCGAGGAAACATCATCCAGTCTGCTGCTCGCCCTCCTTGAGGTGCAC  
AGAAGCGCGCATCTCCAGGCTCTCCAAGCAGCGCTGTGTCTTCGATGTCTGCCACACTTGCAGTATGTCCTCGGAGGTGAGGCTAGGGAGGGGGCG  
GGCAAGCGTTCGGGGCCTGAGGCATAGAGTATGGGGCGGGGCCGCGCAGCTCTGGGGCGGGAGGCGGCTCTCCGGAGGGGGCGGGGCTGGCACCCCTAG  
GGCAGGGCTCACCGCACTGCGTGTATGATCCACACAGCGGTACACGATCACCGGGATATCCGAGTCCCAAGCTGCTGCTCCGACAGCG

cg16617141 (Vaginal 83%, Saliva 88%, Blood 95 %, Semen 10% (max 29))

cg00238848 (Vaginal 79%, Saliva 85%, Blood 92 %, Semen 3% (max 12))

cg27090029 (Vaginal 86%, Saliva 93%, Blood 96 %, Semen 9% (max 32))



L3\_for  
GAGGCCTCCAGCCAGGTTAG  
L3\_rev  
TGCACCTCAAGGAGGGCGAG

Produkt 121 bp  
Blast: ein mögliches Nebenprodukt ca.3000bp

#### Non semen marker L4 Wasserstrom et al.

Chromosom 4 Gen SLC34A2 (solute carrier family 34 member 2)

CAGGCCCTCACCTGTCCAACCTCTTGTTGCAGATCGCCCTGTGCCACTTTTTCTTCAACATCTCCGGCATCTTGCTGTGGTACCCGATCCCGTTCACTCGCCTG  
CCCATCCGCATGGCCAAGGGGCTGGGCAACATCTGTCCAAGTATCGCTGGTTCGCCGCTTCTACCTGATCATCTTCTTCTCTGATCCCGCTGACGGTGTGTTG  
GCCTCTCGCTGGCCGGCTGGCGGGTCTGGTTGGTGTCCGGGTTCCCGTCTTATCATCATCTCTGGTACTGTGCCTCCGACTCTGCAGTCTCGCTGCCAC  
GCGTCTGCCGAAGAACTCCAGAACTGGAACCTTCCCTGCCGCTGTGGATGCGCTGCTGAAGCCCTGGGATGCGTCTCCAAGTTCACCGGCTGCTCCAG  
ATGCGCTGCTGCTGCTGCTGCCGCGTGTGCTGCCGCGGTGCTGCTGCTGCTGCTGCTGACTGCCCAAGTGCTGCCGCTGCAGCAAGTGCTGCAGGACTTGGAGG  
AGGCGCAGGAGGGGACAGGATGTCCCTGTCAAGGCTCTGAGACCTTTGATAACATAACCATTAGCAGAGAGGCTCAGGGTGAGGTCCTGCCTCGGACTCAA  
AGACCGAATGCACGGCCTGTAGGGGACGCCCCAGATTGTCAAGGATGGGGGGATGGTCTTGAGTTTTGCATG

cg19241593 (Vaginal 87%, Saliva 84%, Blood 87 %, Semen 8% (max 19))  
cg16363447 (Vaginal 98%, Saliva 97%, Blood 97 %, Semen 4% (max 20))

L4\_for  
CTGCAGTCTCGTGCCAC  
L4\_rev  
AGCAGCAGCGCATCTGGAAG

Produkt: 136bp  
Blast: 2 mögliche Nebenprodukte bei 250 bp und 111bp

#### L4\_187

L4\_187\_for 66°C 20nt  
GTCGGGGTCCCGTCTT  
L4\_rev 64°C 20nt  
AGCAGCAGCGCATCTGGAAG

Produkt 187 bp

#### Cg17621389 (Lee 2015)

(Vagina 97% Saliva 96% Blood 96% Semen 1%) Nicht Sperm?? Chr. 6

#### Cg22407458 (Forat 2016)

(Vagina 13% Saliva 8% Blood 4% Semen 1%) non semen ?

### Controls

#### PCR control 1 (L1) Wasserstrom et al.

auf Chromosom 19 Gen: *SAFB2* (scaffold attachment factor B2)?

GCAAAGAGCAACTCCGGGTGAGCTATCTGGGCCGCAAGCCCAAAAAGCGGAGGAGGAACCCCGCACAACTGGGTCTCTCTGGGTCCAAATGACAAAGGAGA  
GGGAGGCTGTGAGCAGGAGCTCCAGAATTGGGGTCAAGGACCAGTTCCAAAATGGCAACTCAACTCGACAATGCCAAACCTTCGACTTTAAAGTTATATGATG  
GGACAAATTAGAACAGAGAGGCTGCACTTGGCCCGCCTCGGTGAAGGCTGGCCACCGCTGGTGAAGGAGGAACAGCAGCCAGCCCTGGGGAGATTCAACAG  
GTCCTCAGTGCCTGCCACTGCCGGGTCCAGGACTGGGTACCCACAAGCTCCCTCCCTATGCTCAAGTTGTTTGTTCAGTTGCGGAAACAGACAATTCCTCAAC  
CCCTTAATATTTGCATTTAGCCCTGCTTTCAGCGAGGTGCGACAAACGCAGGATGAGCTGGCAAGGAGGTGGGGCAAGCGCATTAGGAAGGGCGCTCAG

GAAGGTGATGTCTCAGGCAGACCCAAAATGACAACAAGGGGCCGGCCACGAGAAGATCTGGGGGA~~CCCGGG~~TGGACAGCTTCGTAAGGCCAAAGCCCTGG  
GGCAAGAACAAGCACCGCCCTTCTGTAATGCTCTGGAGTCCGCCAGACACCCATTCTCCGGAGGAGGAAACTGAGGCACAGA

**ApK1\_for**

CCTCAGTGCCTGCCACCTG

**ApK1\_rev**

GAATTGTCTGTTTCCGCAACTG

Produkt: 97 bp

Blast: ein paar mögliche weitere Produkte, ein bei 369bp Länge

**PCR control 2/ L8/**

auf Chromosom 2, Gen: *SAFB2* (scaffold attachment factor B2)?

AAAACGTCTTCTATTTGTGCCACAATTTGTATCACAGTTAAGGACAATTCAAAACCATCACATTGTCTGGTTAGAGGAACAGACTTTTTGGGAAAGGAAACA  
CAAACTTTGTCTGCAAAAAGAAGAGAAGCACTGGTTCTGCAGCCTCCCTCTGCAATCAGGCTGGGACAGACTATTCTGCTGGACATGCAAGATGCACCGTAAT  
CCAGGGGAGAAAAATCCTTCCCCTTGGCAACCTCTTCTTTCATAGGCAAGTATGAGAAAAGCATCACTGTTAGTG~~GGGGAA~~TACCCGGAACACTTTGGGCCAA  
GACATTCTGGCTTTTGTGTACCTGTTTGAATATTTCTGGGAACCTAGAACCCTTGCCTGGTGTGTACCCATGCTCCAAA~~CAATGGGGATTATAGTCTG~~  
~~TCC~~ATTCTCCTTCTCTATCTCTATTTGACTGGGGAAACCCCTGAGCCATGGGAAACTGACAAGAGTAGAAAGTCCACGACTGGACCTTCTAACTCATTGTT  
AGGCAACGTGGTGAGTAATTAATATTTCCAACCCAGTTTTGACTCAAGGGATTAAGATGTTAACCATCAATAT

**ApK2\_for**

TGAGAAAAGCATCACTGTTAGTG

**Apk2\_rev**

GGACAGACTATAAATCCCCATTG

Produkt: 160 bp

(Keine GCGC Schnittstelle)

Blast: kein Nebenprodukte

**DC (Digestion control L2) Wasserstrom et al.**

chromosom 22, gen BCL2L13 (BCL2 like 13)

CGGCATCTGGGCGGCTCAAGGCCCGCGCCTCCCTAGGCGGGCTCCAGCCACTC~~CCCGGG~~ACTGCCCGCGGGCTTCGTAAGACCCAACCAAGCCCTCAC  
CTGCTTTTGCACGTACGATCGCTGAGAGCCATGGCGAGAGCAATGCTAGCCGGTGAACAGTAGGCTCGAGTTTAGGTTTGAAGGTGAGGTGAGAGAAAT  
CGGCAAAGGGAACCCCT~~GCGC~~AGATCTCGGGTTCCTTTACTTTATAACCGCGGTTCCGGTTCCTGCCAGGTGACTGCACAGTTCATCCTCATGACCCTCTCAG  
CCAATGGGAAGAGAGCGACGCCAGGAAGTCCCGCCTGTCCCGCCTGTGG~~GCGC~~GTCCTCGGGTCTTCTACGTCGCTGACTCGTGACCTGACC~~GGTATTTT~~  
~~TTTCTAAACTGGGAT~~CTTGGGTAGGAGGAAGAAAAGATAAGGAGTTCCTATCTGAAATTAGTCGGGCTGTTTTGAGGAGTACTGGTTAGGTATATTGGAG  
AATGTGCCTTTATTGGAAATTTTCGCATAATTACACAGGGTTATGGGCTTAGGGGTACATGATTGTTGGCCGGGCGTGGTGGCTCACGCCTGCAATCCGGAGAC  
TTTGGGAGACCAAGGCGGGGTATCGCTTACCTCAAGTTCGAGACCAGGCTGGACAACATAGAGGAACCCCGTCTCTAC

**VdK\_for**

GAGCGACGCCAGGAAGTC

**Vdk\_rev**

ATCCAGTTTAGGAAAAAATACC

Kein Treffer auf Chip

Produkt: 108bp

Blast: keine Nebenprodukte

**PCR control PC Lin et al.**

GTGGGTGACCCCGTCAACCGAGTCCATCACGATGCCAGTGGTACGGCCAGAGGCGTACAGGGATAGCACAGCCTGGATAGCAACGTA  
CATGGCTGGGGTGTGTAAGGTCTCAAACATGATCTGTAAGGCAGAGATACACCATGTACACTGGGGAAGCCACTGGGGACAGCCAG  
GCCAGACGGGGGACATGCAGAAAGTGCAAAGAACACGGCTAAGTGTGCTGGGGTCTTGGGATGGGGAGTCTGTTTCAGACCTACTGTG  
CACCTACTTAATACACTCCAAGGC~~CGCTTTACACCAGCCTCAT~~GGCCTTGTACACAGAGCCAGTGTAGTACCTACACCCACAAC  
ACTGTCTTAGACACCTAGTCAGAGAGACAAACACCAGAAAAAGAGCTCATCTGGGAAAAAGCAAATAGAACCTGCAGAGTTCCAAAG  
GAGACTCAGGTTCAGAGAAGAGAGTCTTACGGAAAAACG~~GCAGAAAGAGAGAACCACTGAGA~~AAGG~~GCGC~~AGCTCCGGGAGGCCAGGAAG

GAGGGAGGCGGCCACCAGAAGAGGTAGCGGGCCACTCACCTGGGTTCATCTTCTCGCGGTTGGCCCTTGGGGTTCAGGGGGCCCTCGGT  
CAGCAGCACGGGGTGTCTCTCGGGAGCCACACGCAGCTCATTGTAGAAGGTGTGGTGCCAGATTTTCTCCATGTCGTCCCAGTTGGT  
GACGATGCCGTGCTCGATGGGGTACTTCAGGGTGAGGATGCCTCTCTTGCTCTGGGCCCTCGTCGCCCACATAGGAATCCTTCTGACC  
CATGCCCCACCATCACGCC

PC for

6FAM-CGCTTTACACCAGCCTCAT

PC rev

TCTACTGGTTCTCTTCTGC

### Digestion Control (DC) Lin et al.

>seq\_23269 503 bp

GGCCGCGTGC GAAGAGCCAGCGGCAGCCCGAGCGCGCTGCGCGGGGACGGGCGGGACCGCCACGAGGGGTGGGGCATCCCCGGAGG  
GCGGAGCGTGGGTGAGGGGCGGGGCATCCGTCGCCGGAAGCCTGTACCGTATTTTCATGGACTCCTAGGCGCCATCGATTTTAAGACG  
CGCTCGCATTCCACGCACCACTGAGCAGAACGTTTGAACCGGACAAAAGTGCAGTCAAGGCGCCCTTCTTGTCTCGGGCTACGCT  
TCTGACTGCAGCCAGGCAGCTGTGGGCCGGGGCCTTGGCGGCTGGAGGAGGGGCGTGAGCTGGTCTCGCCACGCACCTGGCGCGCG  
TACGGGCCGCGCCCTTCTCCTTTATTGGCCGAGATCCCCACGCTGCGCGGGAGGCTGGCGCGGGGTGGAGAAGGGCGTGAGG  
AAGCGGTCCAAGTAGCAGGAGGGCGGTGCAGGGCCCCGAGGGAGCAGCCCAGGGCGGAGGCGGCGG

DC\_for

ATTCCACGCACCACTGAG

DC\_rev

TCTCCTTTATTGGCCGAGAT