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## 6. Abkürzungen

5Aza2dC	5-Aza-2'-desoxycytidin
APM	„affected by papillomavirus DNA integration in ME180 cells“
BTB	<u>B</u> road <u>C</u> omplex- <u>t</u> ramtrack- <u>b</u> ric à <u>b</u> rac
CFA	„Colony Formation Assay“
<i>E. coli</i>	<i>Escherichia coli</i>
hCMV	humanes Cytomegalovirus
HNO	Hals-Nasen-Ohren
HPV	Humanes Papillomvirus
hsp	„heat shock protein“
LOH	„loss of heterozygosity“
ORF	„open reading frame“
RT-PCR	Reverse Transkription-„Polymerase Chain Reaction“
rtTA	reverser <u>T</u> etrazyklin-kontrollierter <u>T</u> ransaktivator
SV40	simian virus 40
T	Tera
TPA	12- <i>O</i> - <u>T</u> etradecanoyl-13- <u>p</u> horbol <u>a</u> acetat
U	„unit“ (Einheit) Enzymaktivität
UTR	Untranslatierte Region
ZF	Zinkfinger



## 7. Anhang

In den folgenden Tabellen ist die vollständige Auswertung der Analysen mit den „Atlas™ Human Cancer 1.2 Arrays“ (Cat.# 7851-1) der Firma Clontech gezeigt. Zussammengestellt wurde jeweils der Vergleich des nicht-induzierbaren HeLa Tet-On-Zellklons II F1 als Kontrolle mit den Zelllinien HeLa transfiziert mit pSG5-APM-1 (Tabelle 1), LX-1 (Tabelle 2), CX-2 (Tabelle 3), Capan-2 (Tabelle 4) und dem HeLa Tet-On-Zellklon I B1 (Tabelle 5). Gene, bei denen eine Veränderung des Expressionsmusters im Vergleich zur Kontrolle beobachtet wurde, sind mit Name, Array-Koordinate und Gruppenzugehörigkeit laut Hersteller-Angaben aufgeführt. Der Befund einer Erhöhung der Signalintensität ist durch einen senkrechten Pfeil nach oben (↑), der Befund einer Reduktion der Signalintensität durch einen Pfeil nach unten (↓) angedeutet.

Die komplette Liste der Gene, die durch die cDNA-Fragmente des „Atlas™ Human Cancer 1.2-Arrays“ repräsentiert werden, ist unter der Internet-Adresse „<http://atlasinfo.clontech.com/atlasinfo/AtlasInfo2/dynamicScripts/cDNAList.ssc?listClontechArrayUid=19&listClontechCatNo=7851-1>“ einsehbar.

**Tabelle 1: Vergleich HeLa+pSG5-APM-1 mit HeLa Tet-On II F1**

Gen	Array Koordinate	Gruppe	Befund
nucleoside diphosphate kinase B (NDP kinase B; NDKB); expressed in non-metastatic cells 2 protein (NME2); myc purine-binding transcription factor (PUF); NM23B	A09b	Oncogenes & Tumor Suppressors Apoptosis-Associated Proteins Transcription Activators & Repressors	↑
nucleoside diphosphate kinase A (NDKA); NDP kinase A; tumor metastatic process-associated protein; metastasis inhibition factor NM23 (NM23-H1)	A10b	Oncogenes & Tumor Suppressors Apoptosis-Associated Proteins Transcription Activators & Repressors	↑
ras homolog gene family member A (RHOA; ARHA); alysia ras-related homolog 12 (ARH12; RHOH12)	A13e	Oncogenes & Tumor Suppressors G Proteins	↑
fibroblast adenine nucleotide translocator 2 (ANT2)	B02a	Symporters & Antiporters Energy Metabolism	↑
B-cell receptor-associated protein (hBAP)	B04n	Other Intracellular Transducers, Effectors & Modulators	↑
STE20-like kinase 3; MST3	B05e	Intracellular Kinase Network Members	↑
placental calcium-binding protein; calvasculin; S100 calcium-binding protein A4; MTS1 protein	B07l	Calcium-Binding Proteins	↑
RHO GDP-dissociation inhibitor 1 (RHO-GDI 1); RHO-GDI alpha (GDIA1); ARHGDI	B14j	GTP/GDP Exchangers & GTPase Activity Modulators	↑
tumor necrosis factor type 1 receptor-associated protein (TRAP1)	C04b	Death Receptor-Associated Proteins & Adaptors	↑
growth arrest & DNA damage-inducible protein 153 (GADD153); DNA damage-inducible transcript 3 (DDIT3); C/EBP homologous protein (CHOP)	C05d	Other Apoptosis-Associated Proteins	↓

**Tabelle 1: Vergleich HeLa+pSG5-APM-1 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
cadherin 5 (CDH5); vascular endothelial cadherin (VE-cadherin); 7B4 antigen	D02d	Cell-Cell Adhesion Receptors	↑
paxillin (PXN)	D08f	Matrix Adhesion Receptors	↑
alpha1 catenin (CTNNA1); cadherin-associated protein	D09d	Matrix Adhesion Receptors	↑
glutathione-S-transferase-like protein (GSTTLp28); glutathione transferase omega (GSTO1)	D09m	Other Stress Response Proteins Apoptosis-Associated Proteins DNA Synthesis, Recombination & Repair Proteins Metabolism of Cofactors, Vitamins & Related Substances	↑
70-kDa heat shock protein 5 (HSPA5); 78-kDa glucose-regulated protein (GRP78); immunoglobulin heavy chain binding protein (BIP)	E02n	Other Immune System Proteins	↓
ubiquitin-conjugating enzyme E2 32-kDa complementing protein; ubiquitin-protein ligase; ubiquitin carrier protein; CDC34	E08l	Other Enzymes involved in Protein Turnover	↑
prostate differentiation factor (PDF); macrophage inhibitory cytokine 1 (MIC1); growth differentiation factor 15 (GDF15)	E09e	Growth Factors, Cytokines & Chemokines	↑
protease inhibitor 7 (PI7); glia-derived nexin; protease nexin I (PN1); glia-derived neurite-promoting factor (GDNPF)	E13j	Cell Signaling & Extracellular Communication Proteins Protease Inhibitors	↑
60S ribosomal protein L10 (RPL10); tumor suppressor QM	F01k	Ribosomal Proteins	↑
40S ribosomal protein S5 (RPS5)	F02k	Ribosomal Proteins	↑
thioredoxin reductase	F11d	Nucleotide Metabolism Stress Response Proteins	↑
ubiquitin C (UBC)	G11	Housekeeping Genes Other Stress Response Proteins Protein Turnover	↑

**Tabelle 2: Vergleich LX-1 mit HeLa Tet-On II F1**

Gen	Array Koordinate	Gruppe	Befund
nucleoside diphosphate kinase A (NDKA); NDP kinase A; tumor metastatic process-associated protein; metastasis inhibition factor NM23 (NM23-H1)	A10b	Oncogenes & Tumor Suppressors Apoptosis-Associated Proteins Transcription Activators & Repressors	↓
fibroblast adenine nucleotide translocator 2 (ANT2)	B02a	Symporters & Antiporters Energy Metabolism	↓
Hint protein; protein kinase C inhibitor 1 (PKCI1)	B02m	Kinase Activators & Inhibitors	↓
placental calcium-binding protein; calvasculin; S100 calcium-binding protein A4; MTS1 protein	B07l	Calcium-Binding Proteins	↑
PTPCAAX1 nuclear tyrosine phosphatase (PRL-1)	B08h	Intracellular Protein Phosphatases Cell Cycle-Related Proteins	↓
tumor necrosis factor type 1 receptor-associated protein (TRAP1)	C04b	Death Receptor-Associated Proteins & Adaptors	↓
growth arrest & DNA damage-inducible protein 153 (GADD153); DNA damage-inducible transcript 3 (DDIT3); C/EBP homologous protein (CHOP)	C05d	Other Apoptosis-Associated Proteins	↓

**Tabelle 2: Vergleich LX-1 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
sentrin; ubiquitin-like protein SMT3C; ubiquitin-homology domain protein PIC1; UBL1; SUMO-1; GAP modifying protein 1; GMP1	C06d	Other Apoptosis-Associated Proteins Other Enzymes involved in Protein Turnover	↓
TIS11B protein; butyrate response factor 1 (BRF1); EGF response factor 1 (ERF1)	C12i	Transcription Activators & Repressors	↑
cadherin 5 (CDH5); vascular endothelial cadherin (VE-cadherin); 7B4 antigen	D02d	Cell-Cell Adhesion Receptors	↑
integrin beta 4 (ITGB4)	D06e	Cell-Cell Adhesion Receptors	↑
high mobility group protein isoforms I & Y (HMG1Y)	D08a	Chromatin Proteins	↑
alpha1 catenin (CTNNA1); cadherin-associated protein	D09d	Matrix Adhesion Receptors	↑
CD9 antigen; leukocyte antigen MIC3	E02i	Other Extracellular Communication Proteins Cell Surface Antigens	↑
MHC class I truncated HLA-G lymphocyte antigen; HLA class I histocompatibility antigen AW-80(A-1) alpha chain; MHC class I antigen HLA-B; HLA-C	E02m	Major Histocompatibility Complex Proteins	↑
70-kDa heat shock protein 5 (HSPA5); 78-kDa glucose-regulated protein (GRP78); immunoglobulin heavy chain binding protein (BIP)	E02n	Other Immune System Proteins	↓
interleukin 1 beta (IL1-beta ; IL1B); catabolin	E07f	Interleukins & Interferons	↑
ubiquitin-conjugating enzyme E2 32-kDa complementing protein; ubiquitin-protein ligase; ubiquitin carrier protein; CDC34	E08l	Other Enzymes involved in Protein Turnover	↑
prostate differentiation factor (PDF); macrophage inhibitory cytokine 1 (MIC1); growth differentiation factor 15 (GDF15)	E09e	Growth Factors, Cytokines & Chemokines	↑
60S ribosomal protein L10 (RPL10); tumor suppressor QM	F01k	Ribosomal Proteins	↑
40S ribosomal protein S5 (RPS5)	F02k	Ribosomal Proteins	↑
type II cytoskeletal 8 keratin (KRT8); cytokeratin 8 (CK8)	F03g	Intermediate Filament Proteins	↑
vimentin (VIM)	F04g	Intermediate Filament Proteins	↓
polyhomeotic 2 homolog (HPH2)	F04m	Functionally Unclassified Proteins	↑
L-lactate dehydrogenase H subunit (LDHB)	F06d	Simple Carbohydrate Metabolism	↓
early growth response alpha (EGR alpha)	F06n	Functionally Unclassified Proteins	↑
keratin 18 (KRT18; KT18)	F08f	Intermediate Filament Proteins	↑
keratin 19 (KRT19; KT19)	F09f	Intermediate Filament Proteins	↑
major histocompatibility complex class I C (HLAC)	G31	Housekeeping Genes	↑

**Tabelle 3: Vergleich CX-2 mit HeLa Tet-On II F1**

Gen	Array Koordinate	Gruppe	Befund
ezrin; cytovillin 2; villin 2 (VIL2)	A03b	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators	↑
c-myc-binding protein MM-1; prefoldin 5 (PFDN5; PFD5)	A03g	Oncogenes & Tumor Suppressors Other Transcription Proteins	↑
cell division protein kinase 6 (CDK6); serine/threonine protein kinase PLSTIRE	A05j	Cell Cycle-Regulating Kinases Intracellular Kinase Network Members	↑
matrix metalloproteinase 11 (MMP11); stromelysin 3	A10f	Oncogenes & Tumor Suppressors Metalloproteinases	↓

**Tabelle 3: Vergleich CX-2 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
ras homolog gene family member A (RHOA; ARHA); aplysia ras-related homolog 12 (ARH12; RHOH12)	A13e	Oncogenes & Tumor Suppressors G Proteins	↑
erbB3 proto-oncogene; HER3	A14d	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators Growth Factor & Chemokine Receptors Protein Kinase Receptors	↓
linker for activation of T-cells (LAT)	B01m	Kinase Activators & Inhibitors Cell Cycle-Related Proteins	↑
stratifin (SFN); 14-3-3 protein sigma; epithelial cell marker protein 1; HME1	B03m	Kinase Activators & Inhibitors Oncogenes & Tumor Suppressors	↑
B-cell receptor-associated protein (hBAP)	B04n	Other Intracellular Transducers, Effectors & Modulators	↑
PTPCAAX1 nuclear tyrosine phosphatase (PRL-1)	B08h	Intracellular Protein Phosphatases Cell Cycle-Related Proteins	↓
growth arrest & DNA damage-inducible protein 153 (GADD153); DNA damage-inducible transcript 3 (DDIT3); C/EBP homologous protein (CHOP)	C05d	Other Apoptosis-Associated Proteins	↓
TIS11B protein; butyrate response factor 1 (BRF1); EGF response factor 1 (ERF1)	C12i	Transcription Activators & Repressors	↑
early growth response protein 1 (EGR1); transcription factor ETR103; KROX24; zinc finger protein 225 (ZNF225); AT225	C12j	Transcription Activators & Repressors	↑
proliferating cyclic nuclear antigen (PCNA); cyclin	C13e	DNA Polymerases, Replication Factors & Topoisomerases	↑
cadherin 5 (CDH5); vascular endothelial cadherin (VE-cadherin); 7B4 antigen	D02d	Cell-Cell Adhesion Receptors	↑
integrin beta 4 (ITGB4)	D06e	Cell-Cell Adhesion Receptors	↑
high mobility group protein isoforms I & Y (HMG1Y)	D08a	Chromatin Proteins	↑
integrin alpha 7B (IGA7B)	D08e	Cell-Cell Adhesion Receptors	↑
paxillin (PXN)	D08f	Matrix Adhesion Receptors	↑
alpha1 catenin (CTNNA1); cadherin-associated protein	D09d	Matrix Adhesion Receptors	↑
glutathione-S-transferase-like protein (GSTTLp28); glutathione transferase omega (GSTO1)	D09m	Other Stress Response Proteins Apoptosis-Associated Proteins DNA Synthesis, Recombination & Repair Proteins Metabolism of Cofactors, Vitamins & Related Substances	↑
ephrin-B2; EPH-related receptor tyrosine kinase ligand 5 (LERK-5); HTK ligand (HTK-L)	E01h	Intracellular Transducers, Effectors & Modulators Other Extracellular Communication Proteins	↑
CD9 antigen; leukocyte antigen MIC3	E02i	Other Extracellular Communication Proteins Cell Surface Antigens	↑
70-kDa heat shock protein 5 (HSPA5); 78-kDa glucose-regulated protein (GRP78); immunoglobulin heavy chain binding protein (BIP)	E02n	Other Immune System Proteins	↓
PDGF-associated protein	E04i	Other Extracellular Communication Proteins Apoptosis-Associated Proteins	↑
platelet-derived growth factor A subunit (PDGFA; PDGF1)	E08c	Growth Factors, Cytokines & Chemokines	↑

**Tabelle 3: Vergleich CX-2 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
Kunitz-type serine protease inhibitor 2 (SPINT2); placental bikunin; hepatocyte growth factor activator inhibitor 2 (HAI2)	E08k	Protease Inhibitors	↑
prostate differentiation factor (PDF); macrophage inhibitory cytokine 1 (MIC1); growth differentiation factor 15 (GDF15)	E09e	Growth Factors, Cytokines & Chemokines	↑
fibroblast growth factor 8 (FGF8); androgen-induced growth factor (AIGF); HBGF8	E14d	Growth Factors, Cytokines & Chemokines	↑
40S ribosomal protein S5 (RPS5)	F02k	Ribosomal Proteins	↑
type II cytoskeletal 8 keratin (KRT8); cytokeratin 8 (CK8)	F03g	Intermediate Filament Proteins	↑
vimentin (VIM)	F04g	Intermediate Filament Proteins	↓
60S ribosomal protein L5 (RPL5)	F04k	Ribosomal Proteins	↑
keratin 18 (KRT18; KT18)	F08f	Intermediate Filament Proteins	↑
keratin 19 (KRT19; KT19)	F09f	Intermediate Filament Proteins	↑
inosine-5'-monophosphate dehydrogenase 2 (IMP dehydrogenase 2; IMPD2)	F10c	Nucleotide Metabolism	↑
bifunctional purine biosynthesis protein BIGH3	F12c F14e	Nucleotide Metabolism Microfilament Proteins	↑ ↑

**Tabelle 4: Vergleich Capan-2 mit HeLa Tet-On II F1**

Gen	Array Koordinate	Gruppe	Befund
interferon-inducible protein 9-27	A01h	Oncogenes & Tumor Suppressors Cell Cycle-Related Proteins Intracellular Transducers, Effectors & Modulators	↑
ezrin; cytovillin 2; villin 2 (VIL2)	A03b	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators	↑
myc proto-oncogene	A03c	Oncogenes & Tumor Suppressors Transcription Activators & Repressors Intracellular Transducers, Effectors & Modulators Apoptosis-Associated Proteins	↑
c-myc-binding protein MM-1; prefoldin 5 (PFDN5; PFD5)	A03g	Oncogenes & Tumor Suppressors Other Transcription Proteins	↑
cell division protein kinase 6 (CDK6); serine/threonine protein kinase PLSTIRE	A05j	Cell Cycle-Regulating Kinases Intracellular Kinase Network Members	↑
G1/S-specific cyclin D1 (CCND1); cyclin parathyroid adenomatosis 1 (PRAD1); bcl-1 oncogene	A06i	Cyclins	↑
met proto-oncogene; hepatocyte growth factor receptor (HGF receptor; HGFR)	A10d	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators Growth Factor & Chemokine Receptors Protein Kinase Receptors	↑
matrix metalloproteinase 11 (MMP11); stromelysin 3	A10f	Oncogenes & Tumor Suppressors Metalloproteinases	↓

**Tabelle 4: Vergleich Capan-2 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
cyclin-dependent kinase regulatory subunit 1 (CKS1)	A10k	Cell Cycle-Regulating Kinases Intracellular Kinase Network Members	↑
FOS-related antigen 1 (FRA1); FOS-like antigen 1 (FOSL1)	A13c	Oncogenes & Tumor Suppressors Transcription Activators & Repressors Intracellular Transducers, Effectors & Modulators	↑
ras homolog gene family member A (RHOA; ARHA); aplysia ras-related homolog 12 (ARH12; RHOH12)	A13e	Oncogenes & Tumor Suppressors G Proteins	↑
erbB3 proto-oncogene; HER3	A14d	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators Growth Factor & Chemokine Receptors Protein Kinase Receptors	↓
stratifin (SFN); 14-3-3 protein sigma; epithelial cell marker protein 1; HME1	B03m	Kinase Activators & Inhibitors Oncogenes & Tumor Suppressors	↑
B-cell receptor-associated protein (hBAP)	B04n	Other Intracellular Transducers, Effectors & Modulators	↑
calmodulin (CALM; CAM)	B05l	Calcium-Binding Proteins	↑
RHO-associated coiled-coil containing protein kinase (p160ROCK)	B07e	Intracellular Kinase Network Members	↑
placental calcium-binding protein; calvasculin; S100 calcium-binding protein A4; MTS1 protein	B07l	Calcium-Binding Proteins	↓
PTPCAAX1 nuclear tyrosine phosphatase (PRL-1)	B08h	Intracellular Protein Phosphatases Cell Cycle-Related Proteins	↓
RHO GDP-dissociation inhibitor 1 (RHO-GDI 1); RHO-GDI alpha (GDIA1); ARHGDI	B14j	GTP/GDP Exchangers & GTPase Activity Modulators	↑
growth arrest & DNA damage-inducible protein 153 (GADD153); DNA damage-inducible transcript 3 (DDIT3); C/EBP homologous protein (CHOP)	C05d	Other Apoptosis-Associated Proteins	↓
TIS11B protein; butyrate response factor 1 (BRF1); EGF response factor 1 (ERF1)	C12i	Transcription Activators & Repressors	↑
proliferating cyclic nuclear antigen (PCNA); cyclin	C13e	DNA Polymerases, Replication Factors & Topoisomerases	↑
integrin beta 4 (ITGB4)	D06e	Cell-Cell Adhesion Receptors	↑
alpha1 catenin (CTNNA1); cadherin-associated protein	D09d	Matrix Adhesion Receptors	↑
glutathione-S-transferase-like protein (GSTTLp28); glutathione transferase omega (GSTO1)	D09m	Other Stress Response Proteins Apoptosis-Associated Proteins DNA Synthesis, Recombination & Repair Proteins Metabolism of Cofactors, Vitamins & Related Substances	↑
CD9 antigen; leukocyte antigen MIC3	E02i	Other Extracellular Communication Proteins Cell Surface Antigens	↑
MHC class I truncated HLA-G lymphocyte antigen; HLA class I histocompatibility antigen AW-80(A-1) alpha chain; MHC class I antigen HLA-B; HLA-C	E02m	Major Histocompatibility Complex Proteins	↑
70-kDa heat shock protein 5 (HSPA5); 78-kDa glucose-regulated protein (GRP78); immunoglobulin heavy chain binding protein (BIP)	E02n	Other Immune System Proteins	↓
cathepsin D (CTSD)	E03j	Aspartic Proteases	↑

**Tabelle 4: Vergleich Capan-2 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
leukocyte elastase inhibitor (LEI); monocyte/neutrophil elastase inhibitor (EI)	E06j	Protease Inhibitors	↑
interleukin 1 beta (IL1-beta ; IL1B); catabolin	E07f	Interleukins & Interferons	↑
HLA-DR antigen-associated invariant subunit	E07m	Major Histocompatibility Complex Proteins	↑
matrix metalloproteinase 7 (MMP7); matrilysin	E08i	Metalloproteinases	↑
Kunitz-type serine protease inhibitor 2 (SPINT2); placental bikunin; hepatocyte growth factor activator inhibitor 2 (HAI2)	E08k	Protease Inhibitors	↑
ubiquitin-conjugating enzyme E2 32-kDa complementing protein; ubiquitin-protein ligase; ubiquitin carrier protein; CDC34	E08l	Other Enzymes Involved in Protein Turnover	↑
CD59 glycoprotein; membrane attack complex inhibition factor (MACIF); MAC inhibitory protein (MACIP); MEM43 antigen; protectin; membrane inhibitor of reactive lysis (MIRL); HRF20; 1F5 antigen	E11l	Immune System Proteins Cell Surface Antigens	↑
tissue-type plasminogen activator (T-plasminogen activator; TPA)	E13k	Serine Proteases	↑
keratin 7 (KRT7; KT7)	F02g	Intermediate Filament Proteins	↑
40S ribosomal protein S5 (RPS5)	F02k	Ribosomal Proteins	↑
type II cytoskeletal 8 keratin (KRT8); cytokeratin 8 (CK8)	F03g	Intermediate Filament Proteins	↑
vimentin (VIM)	F04g	Intermediate Filament Proteins	↓
neutrophil gelatinase-associated lipocalin (NGAL); 25-kDa alpha-2-microglobulin-related subunit of MMP9; lipocalin 2; oncogene 24P3	F04i	Other Trafficking & Targeting Proteins Oncogenes & Tumor Suppressors	↑
60S ribosomal protein L5 (RPL5)	F04k	Ribosomal Proteins	↑
L-lactate dehydrogenase H subunit (LDHB)	F06d	Simple Carbohydrate Metabolism	↓
keratin 18 (KRT18; KT18)	F08f	Intermediate Filament Proteins	↑
keratin 19 (KRT19; KT19)	F09f	Intermediate Filament Proteins	↑
inosine-5'-monophosphate dehydrogenase 2 (IMP dehydrogenase 2; IMPD2)	F10c	Nucleotide Metabolism	↑
elongation factor 1 alpha (EF1-alpha; EF1A)	F12j	Translation Factors	↑
BIGH3	F14e	Microfilament Proteins	↑
40S ribosomal protein S16 (RPS16)	F14j	Ribosomal Proteins	↑

**Tabelle 5: Vergleich HeLa Tet-On I B1 mit HeLa Tet-On II F1**

Gen	Array Koordinate	Gruppe	Befund
nucleoside diphosphate kinase B (NDP kinase B; NDKB); expressed in non-metastatic cells 2 protein (NME2); myc purine-binding transcription factor (PUF); NM23B	A09b	Oncogenes & Tumor Suppressors Apoptosis-Associated Proteins Transcription Activators & Repressors	↑
nucleoside diphosphate kinase A (NDKA); NDP kinase A; tumor metastatic process-associated protein; metastasis inhibition factor NM23 (NM23-H1)	A10b	Oncogenes & Tumor Suppressors Apoptosis-Associated Proteins Transcription Activators & Repressors	↑
matrix metalloproteinase 11 (MMP11); stromelysin 3	A10f	Oncogenes & Tumor Suppressors Metalloproteinases	↑
ras homolog gene family member A (RHOA; ARHA); aplysia ras-related homolog 12 (ARH12; RHOH12)	A13e	Oncogenes & Tumor Suppressors G Proteins	↑

**Tabelle 5: Vergleich HeLa Tet-On I B1 mit HeLa Tet-On II F1 (Fortsetzung)**

Gen	Array Koordinate	Gruppe	Befund
erbB3 proto-oncogene; HER3	A14d	Oncogenes & Tumor Suppressors Intracellular Transducers, Effectors & Modulators Growth Factor & Chemokine Receptors Protein Kinase Receptors	↓
fibroblast adenine nucleotide translocator 2 (ANT2)	B02a	Symporters & Antiporters Energy Metabolism	↑
hint protein; protein kinase C inhibitor 1 (PKC11)	B02m	Kinase Activators & Inhibitors	↑
placental calcium-binding protein; calvasculin; S100 calcium-binding protein A4; MTS1 protein	B07l	Calcium-Binding Proteins	↑
PTPCAAX1 nuclear tyrosine phosphatase (PRL-1)	B08h	Intracellular Protein Phosphatases Cell Cycle-Related Proteins	↑
growth arrest & DNA damage-inducible protein 153 (GADD153); DNA damage-inducible transcript 3 (DDIT3); C/EBP homologous protein (CHOP)	C05d	Other Apoptosis-Associated Proteins	↑
cadherin 5 (CDH5); vascular endothelial cadherin (VE-cadherin); 7B4 antigen	D02d	Cell-Cell Adhesion Receptors	↑
high mobility group protein isoforms I & Y (HMGIY)	D08a	Chromatin Proteins	↑
alpha1 catenin (CTNNA1); cadherin-associated protein	D09d	Matrix Adhesion Receptors	↑
glutathione-S-transferase-like protein (GSTTLp28); glutathione transferase omega (GSTO1)	D09m	Other Stress Response Proteins Apoptosis-Associated Proteins DNA Synthesis, Recombination & Repair Proteins Metabolism of Cofactors, Vitamins & Related Substances	↑
70-kDa heat shock protein 5 (HSPA5); 78-kDa glucose-regulated protein (GRP78); immunoglobulin heavy chain binding protein (BIP)	E02n	Other Immune System Proteins	↑
macrophage migration inhibitory factor (MIF); glycosylation-inhibiting factor (GIF)	E07h	Other Extracellular Communication Proteins Apoptosis-Associated Proteins	↑
prostate differentiation factor (PDF); macrophage inhibitory cytokine 1 (MIC1); growth differentiation factor 15 (GDF15)	E09e	Growth Factors, Cytokines & Chemokines	↑
tissue inhibitor of metalloproteinase 1 (TIMP1); erythroid potentiating activity protein (EPA); collagenase inhibitor (CLGI)	E10j	Protease Inhibitors	↑
fibroblast growth factor 8 (FGF8); androgen-induced growth factor (AIGF); HBGF8	E14d	Growth Factors, Cytokines & Chemokines	↑
fibroblast growth factor 7 (FGF7); keratinocyte growth factor (KGF)	E14b	Growth Factors, Cytokines & Chemokines	↑
keratin 7 (KRT7; KT7)	F02g	Intermediate Filament Proteins	↑
40S ribosomal protein S5 (RPS5)	F02k	Ribosomal Proteins	↑
heterogeneous nuclear ribonucleoprotein K (HNRNPK); dC-stretch-binding protein (CSBP); transformation-upregulated nuclear protein	F07i	mRNA Processing, Turnover & Transport Proteins	↑
ribosomal protein S21 (RPS21)	F11k	Ribosomal Proteins	↑
elongation factor 1 alpha (EF1-alpha; EF1A)	F12j	Translation Factors	↑
glycyl tRNA synthetase (GLYRS; GARS)	F13k	Other Proteins Involved in Translation tRNA Processing, Turnover & Transport Proteins	↑
40S ribosomal protein S16 (RPS16)	F14j	Ribosomal Proteins	↑