

Oligo GEMArray[®] DNA Microarray: Mouse Cancer PathwayFinder™

Catalog Number

OMM-033
EMM-033

Format:

HybTube (Standard protocol)
HybPlate (Higher throughput protocol)

Description

The Oligo GEMArray[®] Mouse Cancer PathwayFinder™ Microarray profiles the expression of 113 genes representative of the six biological pathways involved in transformation and tumorigenesis listed below. Through a simple side-by-side hybridization experiment you can simultaneously determine which of the 6 pathways is involved in your experimental treatment. Once you have identified the pathways involved in your treatment with this microarray, you can then perform focused profiling experiments using our pathway-specific GEMArray Microarrays. Through a simple side-by-side hybridization experiment you can determine differential gene expression between your samples.

Functional Gene Groupings

Cell Cycle Control and DNA Damage Repair: Atm, Brca1, Brca2, Ccnd1, Ccne1, Cdc25a, Cdk2, Cdk4, Cdkn1a (p21Waf1), Cdkn1b (p27Kip1), Cdkn2a (p16Ink4), Chek2 (Rad53), E2f1, Mdm2, Prkdc, Pten, Rb1, Trp53.

Apoptosis and Cell Senescence: Apaf1, Bad, Bak1, Bax, Bcl2, Bcl2l1 (bcl-X), Birc5 (survivin), Casp8, Casp9, Cflar, Gzma, Tert (telomerase), Tnfrsf1a, Tnfrsf6 (Fas), Tnfrsf10b (DR5), Tnfrsf25 (DR3).

Signal Transduction Molecules and Transcription Factors: Akt1, Akt2, Catnb, Erbb2, Ets2, Fos, Grb2, Jun, Map2k1 (MEK), Mapk14 (p38 MAPK), Myc, Nfkb1, Nfkbia (IkBa), Pik3c2a, Pik3cb, Pik3r1, Raf1, Rasa1, Src.

Adhesion: Cd44, Cdh1, Icam1, Itga2, Itga3, Itga4, Itga5, Itga6, Itgav, Itgb1, Itgb3, Itgb5, Mcam, Mtss1, Ncam1.

Angiogenesis: Angpt1, Bai1, Col18a1 (endostatin), Egf, Egfr, Fgf1, Fgf2, Fgfr2, Figf, Flt1, Hgf, Ifna1, Ifnb1, Igf1, Pdgfa, Pdgfb, Tek, Tgfb1, Tgfb1 (ALK-5), Thbs1, Thbs2, Tnf, Vegfa, Vegfb, Vegfc.

Invasion and Metastasis: Kai1, Kiss1, Met, Mmp2, Mmp9, Mta1, Mta2, Muc1, Nme4 (Nm23), Plau (uPA), Plaur (uPAR), S100a4, Serpine1 (PAI1), Serpinb2, Serpinb5 (maspin), Spp1 (osteopontin), Syk, Timp1, Timp3, Twist1.

Storage Conditions

Please check the kit components immediately after you receive this package. SuperArray is only responsible for missing items reported within two (2) business days of receipt.

GEMArray microarrays are shipped at ambient temperature enclosed in either a HybTube or ExpressPak Storage Box. They should be stored at -20°C upon receipt.

References

1. Hanahan, D. and Weinberg, R.A. (2000) The Hallmarks Of Cancer. *Cell* **100**: 57-70.
2. Tsatsanis, C. and Spandidos, D.A. (2000) The Role Of Oncogenic Kinases In Human Cancer. *Int J Mol Med* **5**: 583-590.
3. Meyer, T. and Hart, I.R. (1998) Mechanisms Of Tumour Metastasis. *Eur J Cancer* **34**: 214-221.
4. Detmar, M. (2000) Tumor Angiogenesis. *JID Symposium Proceedings* **5**: 20-23.
5. Klingelutz, A.J. (1999) The Roles Of Telomeres And Telomerase In Cellular Immortalization And The Development Of Cancer. *Anticancer Res* **19**: 4823-4830.
6. Kaufmann, S.H. and Gores, G.J. (2000) Apoptosis In Cancer: Cause And Cure. *BioEssays* **22**: 1007-1017.
7. Lowe, S.W. and Lin, A.W. (2000) Apoptosis In Cancer. *Carcinogenesis* **21**: 485-495.
8. Funk, J.O. (1999) Cancer Cell Cycle Control. *Anticancer Res* **19**: 4772-4780.
9. Molinari, M. (2000) Cell Cycle Checkpoints And Their Inactivation In Human Cancer. *Cell Prolif* **33**: 261-274.
10. Clezardin, P. (1998) Recent Insights Into The Role Of Integrins In Cancer Metastasis. *Cell Mol Life Sci* **54**: 541-548.

Product Specification Sheet

Position	UniGene	GenBank	Symbol	Description	Gene Name
49	Mm.268521	NM_010512	Igf1	Insulin-like growth factor 1	IGF-1/IGF-1
50	Mm.5007	NM_008396	Itga2	Integrin alpha 2	CD49B
51	Mm.57035	NM_013565	Itga3	Integrin alpha 3	CD49C
52	Mm.33596	NM_010576	Itga4	Integrin alpha 4	CD49D
53	Mm.16234	NM_010577	Itga5	Integrin alpha 5 (fibronectin receptor alpha)	CD49E/FNRA
54	Mm.225096	NM_008397	Itga6	Integrin alpha 6	CD49F
55	Mm.227	NM_008402	Itgav	Integrin alpha V	CD51
56	Mm.263396	NM_010578	Itgb1	Integrin beta 1 (fibronectin receptor beta)	CD29/FNRB
57	Mm.87150	NM_016780	Itgb3	Integrin beta 3	CD61/INGRB3
58	Mm.6424	NM_010580	Itgb5	Integrin beta 5	BETA-5/BETA5
59	Mm.275071	NM_010591	Jun	Jun oncogene	AP-1/C-JUN
60	Mm.4261	NM_007656	Kai1	Kangal 1 (suppression of tumorigenicity 6, prostate)	C33/CD82
61	Mm.345053	NM_178260	Kiss1	KISS-1 metastasis-suppressor	METASTATIN
62	Mm.248907	NM_008927	Map2k1	Mitogen activated protein kinase 1	MAPK1/MEK1
63	Mm.311337	NM_011951	Mapk14	Mitogen activated protein kinase 14	CRK1/C5BP1
64	Mm.275003	NM_023061	Mcam	Melanoma cell adhesion molecule	1-GICERIN/CD146
65	Mm.22670	NM_010786	Mdm2	Transformed mouse 3T3 cell double minute 2	MDM-2
66	Mm.86844	NM_008591	Met	Met proto-oncogene	C-MET/HGF
67	Mm.29564	NM_008610	Mmp2	Matrix metalloproteinase 2	CLG4A/GELA
68	Mm.4406	NM_013599	Mmp9	Matrix metalloproteinase 9	B/MMP9
69	Mm.212577	NM_054081	Mta1	Metastasis associated 1	MTA1
70	Mm.25339	NM_011842	Mta2	Metastasis-associated gene family, member 2	MATA1L1/MMTA2
71	Mm.215481	NM_144800	Mtss1	Metastasis suppressor 1	MIM
72	Mm.16193	NM_013605	Muc1	Mucin 1, transmembrane	CD227/EMA
73	Mm.2444	NM_010849	Myc	Myelocytomatosis oncogene	84769/C-MYC
74	Mm.4974	NM_010875	Ncam1	Neural cell adhesion molecule 1	CD56/E-NCAM
75	Mm.256765	NM_008689	Nkfb1	Ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast)	NF-KAPPAB/NF-KAPPAB1
76	Mm.170515	NM_010907	Nkbia	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha	NFKBI
77	Mm.41787	NM_019731	Nme4	Expressed in non-metastatic cells 4, protein	NM23-M4/NM23M4
78	Mm.2675	NM_008808	Pdgfa	Platelet derived growth factor, alpha	PDGFA
79	Mm.144089	NM_011057	Pdgfb	Platelet derived growth factor, B polypeptide	PDGF-B/SIS
80	Mm.3810	NM_011083	Pik3ca	Phosphatidylinositol 3-kinase, C2 domain containing, alpha polypeptide	CPK-M
81	Mm.213128	NM_029094	Pik3cb	Phosphatidylinositol 3-kinase, catalytic, beta polypeptide	P110BETA
82	Mm.259333	NM_011085	Pik3r1	Phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)	C530050K14/P50ALPHA
83	Mm.4183	NM_008873	Plau	Plasminogen activator, urokinase	U-PA/UJA
84	Mm.1359	BC010309	Plaur	Urokinase plasminogen activator receptor	CD87/UJ-PAR
85	Mm.71	NM_011159	Prkdc	Protein kinase, DNA activated, catalytic polypeptide	DNA-PK/DNA-PKCS
86	Mm.245395	NM_008960	Pten	Phosphatase and tensin homolog	MMAC1/TEP1
87	Mm.184163	NM_029780	Raf1	V-raf-1 leukemia viral oncogene 1	C-RAF/CRAF1
88	Mm.259653	NM_145452	Rasa1	RAS p21 protein activator 1	GAP/RASA
89	Mm.373567	NM_009029	Rb1	Retinoblastoma 1	PRB/RB
90	Mm.3925	NM_011311	S100a4	S100 calcium binding protein A4	18A2/42A
91	Mm.271870	NM_011111	Serpib2	Serine (or cysteine) proteinase inhibitor, clade B, member 2	OVALBUMIN/PAI-2
92	Mm.268618	NM_009257	Serpib5	Serine (or cysteine) proteinase inhibitor, clade B, member 5	MASPIN/OVALBUMIN
93	Mm.250422	NM_008871	Serpine1	Serine (or cysteine) proteinase inhibitor, clade E, member 1	PAI-1/PAI1
94	Mm.288474	NM_009263	Spp1	Secreted phosphoprotein 1	APL-1/BNBP
95	Mm.22845	NM_009271	Src	Rous sarcoma oncogene	PP60C-SRC
96	Mm.122843	NM_011518	Syk	Spleen tyrosine kinase	SYK
97	Mm.14313	NM_013690	Tek	Endothelial-specific receptor tyrosine kinase	CD202B/HYK
98	Mm.10109	NM_009354	Tert	Telomerase reverse transcriptase	EST2/TCS1
99	Mm.248380	NM_011577	Tgfb1	Transforming growth factor, beta 1	TGFB/TGFB-1
100	Mm.197552	NM_009370	Tgfb1	Transforming growth factor, beta receptor 1	ALK-5/ALK5
101	Mm.4159	NM_011580	Thbs1	Thrombospondin 1	TBSP1/THBS-1
102	Mm.26688	NM_011581	Thbs2	Thrombospondin 2	THBS-2/TSP2
103	Mm.8245	NM_011593	Timp1	Tissue inhibitor of metalloproteinase 1	CLGI/TIMP
104	Mm.4871	NM_011595	Timp3	Tissue inhibitor of metalloproteinase 3	TIMP-3
105	Mm.1293	NM_013693	Tnf	Tumor necrosis factor	CYTOKINE/DIF
106	Mm.193430	NM_020275	Tnfrsf10b	Tumor necrosis factor receptor superfamily, member 10b	DR5/KILLER
107	Mm.1258	NM_011609	Tnfrsf1a	Tumor necrosis factor receptor superfamily, member 1a	CD120A/FPF
108	Mm.101198	NM_033042	Tnfrsf25	Tumor necrosis factor receptor superfamily, member 25	AP0-3/DDR3
109	Mm.1626	NM_007987	Fas	Fas (TNF receptor superfamily member)	APO-1/APT1
110	Mm.222	NM_011640	Trp53	Transformation related protein 53	P53
111	Mm.3280	NM_011658	Twist1	Twist gene homolog 1 (Drosophila)	M-TWIST/PDE
112	Mm.282184	NM_009505	Vegfa	Vascular endothelial growth factor A	VEGF/VEGF-A
113	Mm.15607	NM_011697	Vegfb	Vascular endothelial growth factor B	VEGF-B/VRF
114	Mm.1402	NM_009506	Vegfc	Vascular endothelial growth factor C	VEGF-C
115	N/A	L08752	PUC18	PUC18 Plasmid DNA	pUC18
116	Blank	Blank	Blank	Blank	
117	Blank	Blank	Blank	Blank	
118	N/A	N/A	AS1R2	Artificial Sequence 1 Related 2 (80% identity)(48/60)	N/A
119	N/A	N/A	AS1R1	Artificial Sequence 1 Related 1 (90% identity)(56/60)	N/A
120	N/A	N/A	AS1	Artificial Sequence 1	N/A
121	Mm.180003	NM_024277	Rps27a	Ribosomal protein S27a	Rps27a
122	Mm.163	NM_009735	B2m	Beta-2 microglobulin	BETA2-M/LY-M11
123	Mm.2180	NM_008302	Hspcb	Heat shock protein 1, beta	90KDA/HSP84
124	Mm.2180	NM_008302	Hspcb	Heat shock protein 1, beta	90KDA/HSP84
125	Mm.5246	NM_008907	Ppia	Peptidylprolyl isomerase A	2700098C05/CPHN
126	Mm.5246	NM_008907	Ppia	Peptidylprolyl isomerase A	2700098C05/CPHN
127	N/A	N/A	BAS2C	Biotinylated Artificial Sequence 2 Complementary sequence	N/A
128	N/A	N/A	BAS2C	Biotinylated Artificial Sequence 2 Complementary sequence	N/A