

Symbol	Function Related to Cancer	Gene Name	Probe Set
PRKCI	protects human leukemia cells against drug-induced apoptosis	protein kinase C, iota [16]	1603_g_at
PRKCI	protects human leukemia cells against drug-induced apoptosis	protein kinase C, iota [16]	41579_s_a
ADAM17 (CO)	overexpression in human CO; may playing a key role in the development of Human LI; lower mRNA expression associated with the better	ADAM metalloproteinase 17 [4, 7]	41601_at
BNIP3	anti-apoptosis	BCL2/adenovirus E1B 19kDa interacting protein 3	38010_at
CCNG1 (LM/LI)	overexpression in LM; in mice, the inhibition of the gene can reduce LI growth	cyclin G1 [11, 2]	1920_s_at
CLDN3 (CM)	overexpressed in CM, used as a biomarker to separate CM from other tumor samples	claudin 3 [3]	33904_at
CYP2J2 (HT)	promotes the neoplastic phenotype of carcinoma cells; up-regulated in HT	cytochrome P450, family 2 subfamily J, polypeptide 2 [12]	500_at
ECGF1	angiogenesis and cell growth	endothelial cell growth factor 1	36879_at
FXR1	apoptosis	fragile X mental retardation, autosomal homolog 1	38405_at
GATA3 (BR/PA/LA)	BR prognostic marker by global gene expression meta-analysis; aberrant expression in human PA and LC	GATA binding protein 3 [15, 10, 23]	40511_at
GREB1 (BR/PA)	androgen-regulated gene required for prostate cancer growth; a critical regulator for the growth of hormone dependent BR; a predictor for the outcome of the endocrine treatment as well as a potential therapeutic target of BR	GREB1 protein [20, 21]	38875_r_at
HMGAI (LI/HN/HT)	a potential prognostic marker in human LI; its expression related to clinical pathological characteristics and prognosis; an architectural transcription factor and a putative protooncogene; deregulated expression has been shown in most human cancers; a novel MYCN target gene relevant for HN	high mobility group AT-1 hook 1 [5, 9]	39704_s_at
HPN(PR)	predictor to separate PR and normal samples	hepsin [22]	37639_at
ITGA6 (CM)	overexpressed in CM, used as a biomarker to separate CM from other tumor samples	integrin, alpha 6 [3]	33410_at
KDR	angiogenesis and cell differentiation	kinase insert domain receptor	1954_at
KRT7 (OV)	deregulated expression was detected by real-time quantitative polymerase chain reaction (PCR) in OV	keratin 7 [17]	41294_at
KRT19 (OV/TC)	deregulated expression was detected by real-time quantitative PCR analysis in OV; expression in TC compared to normal thyroid; useful for the differential diagnosis of thyroid tumors with immunohistochemistry	keratin 19 [17, 19]	40899_at
NEO1 (PR)	down-regulated in PR by real time quantitative reverse transcriptase-PCR	neogenin homolog 1 [14]	33169_at
PPAP2A (BR)	ErbB2 is epidermal growth factor receptor, its overexpression in breast cancers may be accompanied by contrasting clinical outcomes, while ErbB2 specifically activated PPAP2.	phosphatidic acid phosphatase type 2A [1]	34797_at
RPSA (AL)	underexpressed in AL; ribosomal protein-encoding genes are correlated with poor outcome in medulloblastoma	ribosomal protein SA [8, 18]	256_s_at
VDR (HT)	a direct target of tumor protein p53, which specifically upregulates VDR by directly binding to VDR promoter; vitamin D levels may influence breast cancer development and VDR is a crucial mediator for the cellular effects of vitamin D; VDR interacts with other cell-signaling pathways that influence cancer development; a mediator of breast cancer risk and could be a target for cancer prevention efforts	vitamin D receptor [13, 6]	1388_g_at
PDZRN3	protein ubiquitination	PDZ domain containing RING finger 3	33240_at
SLC5A6	Ion/sodium transport	solute carrier family 5, member 6	35256_at
			329_s_at

Table 1: Common Genes description in CGS methods. Abbreviations: AL, large-cell anaplastic lymphoma; BR, breast; CM, Colon metastases; CO, colorectal; HN, human neuroblastoma; HT, human tumor; LC, lung cancer; LI, liver; LM, leiomyoma; OV, ovary; PA, pancreas; PR, prostate; TC, thyroid carcinoma;

Bibliography

- [1] D. N. Amin, A. S. Perkins, and D. F. Stern. Gene expression profiling of erbb receptor and ligand-dependent transcription. *Oncogene*, 23:1428–1438, 2004.
- [2] W. K. Baek, D. Kim, N. Jung, Y. M. Yi, J. M. Kim, S. D. Cha, I. Bae, and C. H. Cho. Increased expression of cyclin g1 in leiomyoma compared with normal myometrium. *American Journal of Obstetrics and Gynecology*, 188:634–639, 2003.
- [3] A. Bhattacharjee, W. G. Richards, J. Staunton, C. Li, S. Monti, P. Vasa, C. Ladd, Javad Beheshti, R. Bueno, M. Gillette, M. Loda, G. Weber, E. J. Mark, E. S. Lander, W. Wong, B. E. Johnson, T. R. Golub, D. J. Sugarbaker, and M. Meyerso. Classification of human lung carcinomas by mrna expression profiling reveals distinct adenocarcinoma subclasses. *Proceedings of National Academy of Sciences of the United States of America*, 98:13790–13795, 2001.
- [4] F. Blanchot-Jossic, A. Jarry, D. Masson, K. Bach-Ngohou, J. Paineau, M. G. Denis, C. L. Laboisie, and J. F. Mosnier. Up-regulated expression of adam17 in human colon carcinoma: co-expression with egfr in neoplastic and endothelial cells. *Journal of Pathology*, 207:156–163, 2005.
- [5] Z. G. Chang, L. Y. Yang, W. Wang, J. X. Peng, G. W. Huang, Y. M. Tao, and X. Ding. Determination of high mobility group a1 (hmg1) expression in hepatocellular carcinoma: a potential prognostic marker. *Digestive Diseases and Sciences*, 50:1764–1770, 2005.
- [6] W. Y. Chen, E. R. Bertone-Johnson, D. J. Hunter, W. C. Willett, and S. E. Hankinson. Associations between polymorphisms in the vitamin d receptor and breast cancer risk. *Cancer Epidemiology Biomarkers and Prevention*, 14:2335–2339, 2005.
- [7] X. Ding, L. Y. Yang, G. W. Huang, W. Wang, and W. Q. Lu. Adam17 mrna expression and pathological features of hepatocellular carcinoma. *World Journal of Gastroenterology*, 10:2735–2739, 2004.
- [8] T. Gaiser, C. Thorns, H. Merz, F. Noack, A. C. Feller, and K. Lange. Gene profiling in anaplastic large-cell lymphoma-derived cell lines with cdna expression arrays. *Journal of Hematother Stem Cell Research*, 11:423–428, 2002.
- [9] G. Giannini, F. Cerignoli, M. Mellone, I. Massimi, C. Ambrosi, C. Rinaldi, C. Dominici, L. Frati, I. Screpanti, and A. Gulino. High mobility group a1 is a molecular target for mycn in human neuroblastoma. *Cancer Research*, 65:8308–8316, 2005.
- [10] A. Gulbinas, P. O. Berberat, Z. Dambrauskas, T. Giese, N. Giese, F. Autschbach, J. Kleeff, S. Meuer, M. W. buchler, and H. Friess. Aberrant gata-3 expression in human pancreatic cancer. *Journal of Histochemistry and Cytochemistry*, 54:161–169, 2006.

- [11] M. R. Jensen, V. M. Factor, A. Fantozzi K. Helin, C. G. Huh, and S. S. Thorgeirsson. Reduced hepatic tumor incidence in cyclin g1-deficient mice. *Hepatology*, 37:862–870, 2003.
- [12] J.Jiang, C. Chen, J. W. Card, S. Yang, J. Chen, X. Fu, Y. Ning, X. Xiao, D. C. Zeldin, and D. Wang. Cytochrome p450 2j2 promotes the neoplastic phenotype of carcinoma cells and is up-regulated in human tumors. *Cancer Research*, 65:4707–4715, 2005.
- [13] R. Kommagani, T. M. Caserta, and M. P. Kadakia. Identification of vitamin d receptor as a target of p63. *Oncogene*, 2006.
- [14] A. Latil, L. Chene, B. Cochant-Priollet, P. Mangin, G. Fournier, P. Berthon, and O. Cussenot. Quantification of expression of netrins, slits and their receptors in human prostate tumors. *International Journal of Cancer*, 103:306–325, 2002.
- [15] R. Mehra, S. Varambally, L. Ding, M. S. Sabe R. Shen and, D. Ghosh, A. M. Chinnaiyan, and C. G. Kleer. Identification of gata3 as a breast cancer prognostic marker by global gene expression meta-analysis. *Cancer Research*, 65:11259–11264, 2005.
- [16] N. R. Murray and A. P. Fields. Atypical protein kinase c iota protects human leukemia cells against drug-induced apoptosis. *Journal of Biological Chemistry*, 272:27521–27524, 1997.
- [17] V. Ouellet, D. M. Provencher, C. M. Maugard, C. P. Le, F. Ren, C. Lussier, J. Novak, B. Ge, T. J. Hudson, P. N. Tonin, and A. M. Mes-Masson. Discrimination between serous low malignant potential and invasive epithelial ovarian tumors using molecular profiling. *Oncogene*, 24:4672–4687, 2005.
- [18] S. L. Pomeroy, P. Tamayo, M. Gaasenbeek, L. M. Sturla, M. Angelo, M. E. McLaughlin, J. Y. H. Kim, L. C. Goumnerova, P. M. Black, C. Lau, J. C. Allen, D. Zagzag, J. M. Olson, T. Curran, C. Wetmore, J. A. Biegel, T. Poggio, S. Mukherjee, R. Rifkin, A. Califano, G. Stolovitzky, D. N. Louis, J. P. Mesirov, E. S. Lander, and T. R. Golub. Prediction of central nervous system embryonal tumour outcome based on gene expression. *Nature*, 3:436–442, 2003.
- [19] M. L. Prasad, N. S. Pellegata, Y. Huang, H. N. Nagaraja, A. d. l. Chapelle, and R. T. Kloos. Galectin-3, fibronectin-1, cited-1, hbme1 and cytokeratin-19 immunohistochemistry is useful for the differential diagnosis of thyroid tumors. *Modern Pathology*, 19:48–57, 2005.
- [20] J. M. Rae, M. D. Johnson, K. E. Cordero, J. O. Scheys, J. M. Larios, M. M. Gottardis, K. J. Pienta, and M. E. Lippman. Greb1 is a novel androgen-regulated gene required for prostate cancer growth. *Prostate*, 2006.
- [21] J. M. Rae, M. D. Johnson, J. O. Scheys, K. E. Cordero, J. M. Larios, and M. E. Lippman. Greb 1 is a critical regulator of hormone dependent breast cancer growth. *Breast Cancer Research and Treatment*, 92:141–149, 2005.
- [22] D. Singh, P. G. Febbo, K. Ross, D. G. Jackson, J. Manola, C. Ladd, P. Tamayo, A. A. Renshaw, A. V. D’Amico, J. P. Richie, E. S. Lander, M. Loda, P. W. Kantoff, T. R. Golub, and W. R. Sellers. Gene expression correlates of clinical prostate cancer behavior. *Cancer Cell*, 1:203–209, 2002.
- [23] H. Wei, Z. Tian, X. Xu, J. Feng, and W. Xiao. Expression of transcription factor t-bet/gata3 in lung cancer patients and its interference by the traditional chinese herbal medicine. *Zhonghua Zhong Liu Za Zhi*, 24:34–37, 2002.