

A decomposition model to track gene expression signatures: preview on observer-independent classification of ovarian cancer
Martoglio, Miskin, Smith, and MacKay (2002) Bioinformatics

Table 2. Leading genes defining gene (g) signatures unveiled by independent component analysis (ICA) of ovarian cDNA array data.

| Gene number | Signal measurement in the g-signature | Gene name |
|---|---------------------------------------|---|
| g-signature 1 | | |
| 94 | 11.25 | QM PROTEIN/60S RIBOSOMAL PROTEIN L10 |
| 172 | 8.23 | Tie1 |
| 167 | 6.14 | PLACENTAL THROMBIN INHIBITOR |
| 46 | 4.94 | THROMBOSPONDIN 4 |
| 110 | 3.9 | TYROSINE-PROTEIN KINASE RECEPTOR FLT4 |
| 113 | 3.82 | STEROIDOGENIC ACUTE REGULATORY PROTEIN, CAB1 |
| 154 | 3.47 | GLUTATHIONE S-TRANSFERASE MUSCLE (GSTM2-2) |
| 70 | 3.37 | PLGF |
| 126 | 2.98 | GLUTATHIONE SYNTHETASE |
| 143 | 2.94 | EARLY RESPONSE PROTEIN NAK1 |
| g-signature 3: Benign mucinous cystadenoma (bmc) | | |
| 170 | 7.08 | METALLOPROTEINASE INHIBITOR 1 (TIMP-1) |
| 146 | 6.86 | 5-HYDROXYTRYPTAMINE 2B RECEPTOR, 5-HT2B |
| 68 | 3.34 | AMP DEAMINASE 3 |
| 49 | 2.71 | CALGRANULIN B |
| 7 | 2.42 | MUCIN 1 |
| 64 | 2.4 | ORF X |
| g-signature 4: Pre-menopause, normal | | |
| 43 | 32.47 | ENDOTHELIN-1 RECEPTOR |
| 169 | 4.42 | CADHERIN-6 (K-) |
| 149 | 2.28 | Cu/Zn SUPEROXIDE DISMUTASE |
| 27 | 1.66 | ELONGATION FACTOR 1-ALPHA 1 (EF-1-ALPHA-1) |
| g-signature 5 | | |
| 27 | 6.86 | ELONGATION FACTOR 1-ALPHA 1 (EF-1-ALPHA-1) |
| 94 | 3.72 | QM PROTEIN/60S RIBOSOMAL PROTEIN L10 |
| 169 | 2.44 | CADHERIN-6 (K-) |
| 11 | 2.08 | HLA CLASS I HISTOCOMPATIBILITY ANTIGEN (B-12) |
| 170 | 1.74 | METALLOPROTEINASE INHIBITOR 1 (TIMP-1) |
| 139 | 1.68 | ACTIN, AORTIC SMOOTH MUSCLE, alpha-actin |
| 149 | 1.38 | Cu/Zn SUPEROXIDE DISMUTASE |
| 20 | 1.34 | ACTIN, GAMMA-ENTERIC SMOOTH MUSCLE |
| 2 | 1.29 | PLACENTAL GROWTH FACTOR |
| 152 | 1.22 | OXYTOCIN RECEPTOR |
| 73 | 1.19 | ATP SYNTHASE LIPID-BINDING PROTEIN P2 |
| 140 | 1.13 | HEAT SHOCK COGNATE 71 KD PROTEIN (HSP71) |
| 172 | 1.12 | Tie1 |
| 142 | 1.05 | COFILIN |
| 119 | 1 | GLUTATHIONE S-TRANSFERASE P |
| 9 | 0.98 | NEUTROPHIL CYTOSOL FACTOR 1 (P47-PHOX) |
| 53 | 0.96 | METALLOPROTEINASE INHIBITOR 1 (TIMP-1) |
| 118 | 0.95 | TYROSINE-PROTEIN KINASE RECEPTOR TEK (TIE-2) |
| 154 | 0.94 | GLUTATHIONE S-TRANSFERASE MUSCLE (GSTM2-2) |
| 161 | 0.91 | METALLOPROTEINASE INHIBITOR 3 (TIMP-3) |

Table 2 (continued)

| g-signature 7: <i>Benign serous cystadenoma (bsc)</i> | | |
|--|-------|---|
| 139 | 8.28 | ACTIN, AORTIC SMOOTH MUSCLE, alpha-actin |
| 20 | 6.86 | ACTIN, GAMMA-ENTERIC SMOOTH MUSCLE |
| 170 | 3.96 | METALLOPROTEINASE INHIBITOR 1 (TIMP-1) |
| 81 | 0.53 | KDR |
| 17 | 0.51 | MEMBRANE GLYCOPROTEIN GP130 |
| g-signature 8 | | |
| 152 | 11.78 | OXYTOCIN RECEPTOR |
| 167 | 3.4 | PLACENTAL THROMBIN INHIBITOR (PROTEASE INHIBITOR 6) |
| 38 | 2.32 | NUCLEAR FACTOR NF-KAPPA-B P105 |
| 162 | 0.34 | TYROSINE-PROTEIN KINASE RECEPTOR FLT4 |
| 97 | 0.29 | INTERSTITIAL COLLAGENASE (MMP-1) |
| g-signature 10 | | |
| 169 | 18.82 | CADHERIN-6 (K-) |
| 167 | 9.06 | PLACENTAL THROMBIN INHIBITOR (PROTEASE INHIBITOR 6) |
| 158 | 4.58 | CYTOCHROME B-245 HEAVY CHAIN |
| g-signature 12: <i>Poorly differentiated serous papillary adenocarcinoma (pd-spa)</i> | | |
| 11 | 5.46 | HLA CLASS I HISTOCOMPATIBILITY ANTIGEN (B-12) |
| 172 | 3.19 | Tie1 |
| 46 | 2.82 | THROMBOSPONDIN 4 |
| 142 | 1.06 | COFILIN |
| 127 | 0.95 | CADHERIN-11 (OB-) |
| 95 | 0.92 | CADHERIN-3 (P-) |
| 120 | 0.91 | HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DR-1 BETA |
| 2 | 0.85 | PLACENTAL GROWTH FACTOR |
| 7 | 0.84 | MUCIN 1 |
| 70 | 0.77 | PLACENTAL GROWTH FACTOR |
| 17 | 0.76 | MEMBRANE GLYCOPROTEIN GP130 |
| g-signature 14 | | |
| 172 | 1.97 | Tie1 |
| 70 | 1.75 | PLGF |
| 110 | 1.64 | TYROSINE-PROTEIN KINASE RECEPTOR FLT4 |
| 162 | 1.64 | TYROSINE-PROTEIN KINASE RECEPTOR FLT4 |
| 27 | 1.54 | ELONGATION FACTOR 1-ALPHA 1, (EF-1-ALPHA-1) |
| 83 | 1.52 | VEGF B |
| 93 | 1.5 | NEUROPILIN-2 |
| 67 | 1.46 | MACROPHAGE STIMULATING PROTEIN (MSP) |
| 2 | 1.36 | PLACENTAL GROWTH FACTOR |
| 18 | 1.24 | MEVALONATE KINASE |
| 10 | 1.18 | INTEGRIN BETA-4 SUBUNIT |
| 90 | 1.14 | VEGF C |
| 25 | 1.11 | SPARC |
| 46 | 1.11 | THROMBOSPONDIN 4 |
| 127 | 1 | CADHERIN-11 (OB-) |
| 5 | 0.98 | NTAK |
| 69 | 0.98 | OVIDUCT-SPECIFIC GLYCOPROTEIN (OVIDUCTIN) |
| 21 | 0.97 | SITE 1 PROTEASE (S1P) |
| 149 | 0.94 | Cu/Zn SUPEROXIDE DISMUTASE |
| 144 | 0.91 | UROKINASE PLASMINOGEN ACTIVATOR SURFACE RECEPTOR |

Table 2 (continued)

| g-signature 15 | | |
|-----------------------|------|--|
| 13 | 2.75 | HEMOGLOBIN GAMMA-A AND GAMMA-G CHAINS |
| 126 | 2.74 | GLUTATHIONE SYNTHETASE |
| 158 | 2.51 | CYTOCHROME B-245 HEAVY CHAIN |
| 143 | 2.38 | EARLY RESPONSE PROTEIN NAK1 |
| 100 | 2.36 | STROMELYSIN-1 (MMP-3) |
| 103 | 1.99 | MATRILYSIN (MMP-7) |
| 38 | 1.89 | NUCLEAR FACTOR NF-KAPPA-B P105 |
| 22 | 1.82 | STROMELYSIN-2, (MMP-10) |
| 142 | 1.78 | COFILIN |
| 119 | 1.7 | GLUTATHIONE S-TRANSFERASE P |
| 55 | 1.63 | INTERCELLULAR ADHESION MOLECULE-2 (ICAM-2) |
| 78 | 1.6 | HEPATOCTE GROWTH FACTOR (HGF) |
| 1 | 1.56 | PROLACTIN RECEPTOR TYPE 2 |
| 125 | 1.54 | CD44 ANTIGEN, EPITHELIAL FORM |
| 107 | 1.5 | EPIDERMAL GROWTH FACTOR RECEPTOR |
| 145 | 1.5 | CYCLIN-DEPENDENT KINASE INHIBITOR P27 |
| 116 | 1.48 | ANGIOPOIETIN-1 |
| 30 | 1.46 | COMPLEMENT RECEPTOR TYPE 2 |
| 39 | 1.43 | PROSTAGLANDIN D SYNTHASE |
| 18 | 1.42 | MEVALONATE KINASE |