| No. | Disease                                      | Gene Symbol | PubMed ID | Information                                                                                                                                 |
|-----|---------------------------------------------|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Autism spectrum disorder                     | HTR2A (655) | 22515642  | Data suggest that the HTR2A functional rs6311 polymorphism, which other studies have associated with differential HTR2A mRNA expression, may modulate the severity of depression symptoms in children with autism spectrum disorder. |
| 2   | Bipolar disorder                             | GSK3B (2932) | 25041139  | GSK3B protein and mRNA expression were decreased in the dorsolateral prefrontal cortex and temporal lobe of bipolar disorder patients compared to schizophrenia patients and controls. |
| 3   | Breast cancer                                | DAPK1 (1612) | 21965790  | High DAPK1 expression causes increased cancer cell growth and enhanced signaling via the mTOR/S6K pathway; evaluation of breast cancer patient data sets revealed that high DAPK1 expression associates with worse outcomes in women with p53-mutant cancers. |
|     |                                             | BMP2 (596)  | 2842933  | BMP2 results show that DNA demethylation of distinct promoter regions is associated with re-expression of the tumor suppressor gene DAPK1. Its knockdown promotes tumor cell migration in breast cancer cell line. |
|     |                                             | C23 (3286)  | 22252757  | C23 protein mediates bone morphogenetic protein-2-mediated epithelial-to-mesenchymal transition via up-regulation of ERK1/ERK2 and Akt in gastric cancer. Correlations between C23, BMPRII expression and prognosis of gastric cancer patients. |
|     |                                             | SOX9 (6662) | 22515642  | SOX9 expression may be a factor in the formation of endometrial cancer.                                                                      |
| 4   | Chronic obstructive pulmonary disease        | TSLP (1545181) | 22387890  | There is distinct airways expression of TSLP and chemokines which preferentially attract T helper (Th) type 1- and Th2-type T cells, and influx of T cells bearing their receptors in asthma and chronic obstructive pulmonary disease. |
| 5   | Cleft palate                                 | FOXE1 (2304) | 19193046  | A novel homozygous polymorphism that prevented the binding of MYF-5 to FOXE1 promoter and affected the FOXE1 expression was found in 45% nonsyndromic cleft palate. |
| 6   | Endometrial cancer                           | PTEN (5728) | 15451811  | PTEN mRNA and protein expression as well as PTEN-related cell growth inhibition in endometrial cancer cells.                                |
|     |                                             | BCL2 (596)  | 12252757  | BCL-2 expression was significantly more frequent in early clinical stages in both types of endometrial cancer.                                |
|     |                                             | BCL2 (596)  | 12252757  | BCL2-2 expression was significantly more frequent in early clinical stages in both types of endometrial cancer.                                |
| 7   | Endometrial cancer                           | SOX9 (6662) | 22726401  | These findings indicate that chronic overexpression of SOX9 in the uterine epithelium can induce the development of endometrial hyperplastic lesions. Thus, SOX9 expression may be a factor in the formation of endometrial cancer. |
| 8   | Gastric cancer                               | CDKN2A (1029) | 1661609  | Differences in oncprotein expression between endometriotic and adenomyotic tissues provide further evidence that the pathogenesis of endometriosis is different from that of adenomyosis. |
|     |                                             | BMP2 (650)  | 25698539  | C33 protein mediates bone morphogenetic protein-2-mediated epithelial-to-mesenchymal transition via up-regulation of Erk2/Erk2 and Akt in gastric cancer. Correlations between C33, BMPRII expression and prognosis of gastric cancer patients. |
|     |                                             | SOX9 (6662) | 23812904  | High expression of SOX9 is associated with gastric cancers.                                                                               |
| 9   | Hepatocellular carcinoma                     | SOX9 (6662) | 22515642  | Our data suggest for the first time that the overexpression of SOX9 protein in hepatocellular carcinoma tissues is of predictive value on tumor progression and poor prognosis. |
| 10  | Hippary                                     |               |           |                                                                                                                                           |
22 Long cancer

- TNF (7124)
- shh:53154802-31548600
- shh:59249652-59251452
- shh:59250097-59252097
- JUN (3735)

- The positive feedback regulation of OCL4 and JUN, resulting in the continuous expression of oncogenes such as c-Jun, seems to play a critical role in the determination of the cell fate decision from induced pluripotent stem cells to cancer stem cells in liver cancer.

23 Overexpression

- BCL2A (5335)
- BCL2A overexpression predicts survival and relapse in non-small cell lung cancer and is mediated by microRNA-38a and gene amplification.

24 Ulcerative colitis

- TNF-α (152)
- IL-17 (227)
- IL-22 (315)
- JAK3 (213)
- STAT3 (157)

- IL-17 influences the innate immune system in ulcerative colitis by increasing the synovial expression of TLR3 via the STAT3 pathway.

25 Prostate cancer

- PSEN1 (462)
- PHF25 (462)

- Data show that anti-thrombin is widely expressed in prostate cancer but is gradually lost in tumors of high Gleason grade.

26 Apoptosis

- IL-1β (255)
- TNF-α (201)
- IL-6 (120)

- Gankyrin regulates HIF-1α protein stability and cyclin D1 expression, ultimately mediating Fas-driven ovarian cancer cell proliferation.

27 Ovarian cancer

- CLC2 (6347)
- p16 (308)
- CAMKK2 (565)

- Data suggest that CAMKK2 is highly expressed in high-grade ovarian cancer and ovarian cancer cell lines; CAMKK2 directly activates Akt1 by phosphorylation at Thr-308 in a Ca2+/calmodulin-dependent manner; CAMKK2 knockdown or inhibition decreases Akt1 phosphorylation at Thr-308 and Ser-473.

28 Pancreatic cancer

- TGFβ (308)
- p53 (106)
- SIRT1 (308)

- BCL11A overexpression predicts survival and relapse in non-small cell lung cancer and is mediated by microRNA-38a and gene amplification.

29 Rheumatoid arthritis

- IL-6 (219)
- IL-17 (255)
- IL-22 (255)

- The CCR5-HDH haplotype, a known genetic determinant of increased susceptibility to HIV-AIDS, and a high copy number of CCll1, a known genetic determinant of enhanced CCLS/CCLL1 chemokine expression, each associated with presence of disability.

30 Ovarian epithelial carcinoma

- CLC2 (6347)
- p16 (308)
- SIRT1 (308)

- BCL11A overexpression predicts survival and relapse in non-small cell lung cancer and is mediated by microRNA-38a and gene amplification.