

Supplemental Table2: Non exhaustive list of proteins from Figure 2

UniprotKB gene	Related Disease/Experimental Evidence /clinical data
sp P20742 PZP	Up-regulated in Alzheimer's disease (Ijsselstijn et al. 2011).
sp P02787 TF	A serum iron transporter found to be decreased in laryngeal cancer(Taysi et al. 2003) . Selective stimulation of prostatic carcinoma cell proliferation by transferrin (Rossi and Zetter 1992).
sp P67936 TPM4	Down-regulated in renal cell carcinoma (Hwa et al. 2005).
sp Q03591 CFHR1	Has a role in cancer surveillance and in the screening of high-risk asymptomatic bladder cancer patients (Raitanen et al. 2001) . Expressed in lung cancer cells (Ajona et al. 2004).
sp P12814 ACTN1	It may mediate rapidly growing tumors (Downey et al. 2011) HAMLET binding to α -actinin facilitates tumor cell detachment (Trulsson et al. 2011)
sp P63104 YWHAZ	Part of the Alpha6Beta4Integrin and TNF alpha/NF-kB cancer pathways (cancer.cellmap.org). It is an anti-apoptotic protein and is up-regulated to prevent colorectal cancer (Sakai et al. 2011)
sp P69905 HBA1	Regulated in lung adenocarcinomas (Chatterji and Borlak 2007)
sp P02741 CRP	Infection, inflammation, myeloma, melanoma, lymphoma, and ovarian, renal, pancreatic, and gastrointestinal tumors (Deichmann et al. 2004).
sp P02786 TFRC	It is upregulated in neuroendocrine carcinomas of the pancreas (Ryschich et al. 2004) Involved in KitReceptor pathway (cancer.cellmap.org) The expression of TFR correlates with tumor differentiation in lung cancer (Dowlati et al. 1997; Roetto et al. 2001) New mutations inactivating transferrin receptor 2 in hemochromatosis type 3 (Dowlati et al. 1997; Roetto et al. 2001)
sp P55072 VCP	Disease mutation (Ashburner et al. 2000) It is up-regulated in necrosis factor-alpha-resistant tumors (Kuramitsu et al. 2011)
sp P02775 PPBP	It is involved in p21-overexpressing tumor cells (Currid et al. 2006)
sp P01766 IGH	Secondary immune response (Ashburner et al. 2000)
sp P19652 ORM2	Potential biomarker for alpha-fetoprotein-low hepatocellular carcinoma (Bachtiar et al. 2010) Up-regulated in patients with breast cancer and in patients with chronic inflammatory disease (Hanada et al. 2011)

UniprotKB gene	Related Disease/Experimental Evidence /clinical data
sp P36980 CFHR2	It has a role in cancer surveillance and in the screening of high-risk asymptomatic bladder cancer patients (Raitanen et al. 2001).
sp P05109 S100A8	tumor marker for malignant melanoma (Tas et al. 2004) Identification of S100A8 and S100A9 as serological markers for colorectal cancer (Kim et al. 2009)
sp Q8TDL5 BPIFB1	May play a role in innate immunity in mouth, nose and lungs (Ashburner et al. 2000). It is a useful marker for gastric hepatoid adenocarcinoma (Yasui et al. 2009) .
sp P98160 HSPG2	Schwartz-Jampel syndrome (Ashburner et al. 2000)
sp Q6IS14 IF5AL	The eIF-5A is significantly increased in lung adenocarcinomas (Chen et al. 2003)
sp P08319 ADH4	In endometrial cancer, cells exhibit activity of alcohol dehydrogenase (Orywal et al. 2010). Cluster headache is associated with the alcohol dehydrogenase 4 (ADH4) gene (Rainero et al. 2010)
sp P62834 RAP1A	Ras-related protein 1 is associated with a risk of progression in patients diagnosed with carcinoma <i>in situ</i> (Furstenau et al. 2011)
sp Q96NZ9 PRAP1	Acidic PRPs are significantly reduced in irradiated patients (Hannig et al. 2006) PRAP is epigenetically regulated, and inhibits the growth of cancer cell lines (Zhang et al. 2003)
sp P01814 HV201	Secondary immune response (Ashburner et al. 2000)
sp P06310 KV206	Secondary immune response (Ashburner et al. 2000)
sp P19827 ITIH1	Up-regulated in ovarian cancer (Zhang et al. 2004) Down-regulated in cigarette smokers (Bortner et al. 2011)
sp P61641 RBP4	Decreased in leukemia patients (Kwak et al. 2004). Up-regulated in the urine in Diabetic Nephropathy (Rao et al. 2007)
sp P01776 HV315	Secondary immune response (Ashburner et al. 2000)

UniprotKB gene	Related Disease/Experimental Evidence /clinical data
sp Q9R0G6 COMP	inflammation biomarker in knee osteoarthritis (Zivanovic et al. 2011)
sp P03952 KLKB1	Up-regulated in prostate cancer (Klein et al. 2010) Identification of human plasma kallikrein gene polymorphisms and evaluation of their role in end stage renal disease (Yu et al. 1998)
sp Q08380 LGALS3BP	Plays important roles in cancer cell growth (Newlaczyk and Yu 2011) Galectin-3 expression is induced in cirrhotic liver and hepato-cellular carcinoma (Hsu et al. 1999)
sp P10365 ACTB	Regulation of cancer cell motility through actin reorganization (Yamaguchi and Condeelis 2007; Yamazaki et al. 2005)
sp P02774 GC	Deglycosylation of serum vitamin D3-binding protein leads to immune-suppression in cancer patients (Yamamoto et al. 1996) Regulated in lung adenocarcinomas (Chatterji and Borlak 2007)

Supplemental References for Supplemental Table 2

- Ajona D, Castano Z, Garayoa M, Zudaire E, Pajares MJ, Martinez A, Cuttitta F, Montuenga LM, Pio R (2004) Expression of complement factor H by lung cancer cells: effects on the activation of the alternative pathway of complement. *Cancer Res* 64 (17):6310-6318.
- Ashburner M, Ball CA, Blake JA, Botstein D, Butler H, Cherry JM, Davis AP, Dolinski K, Dwight SS, Eppig JT, Harris MA, Hill DP, Issel-Tarver L, Kasarskis A, Lewis S, Matese JC, Richardson JE, Ringwald M, Rubin GM, Sherlock G (2000) Gene ontology: tool for the unification of biology. The Gene Ontology Consortium. *Nat Genet* 25 (1):25-29. doi:10.1038/75556
- Bachtiar I, Kheng V, Wibowo GA, Gani RA, Hasan I, Sanityoso A, Budhihusodo U, Lelosutan SA, Martamala R, Achwan WA, Soemoharjo S, Sulaiman A, Lesmana LA, Tai S (2010) Alpha-1-acid glycoprotein as potential biomarker for alpha-fetoprotein-low hepatocellular carcinoma. *BMC Res Notes* 3:319.
- Bortner JD, Jr., Richie JP, Jr., Das A, Liao J, Umstead TM, Stanley A, Stanley BA, Belani CP, El-Bayoumy K (2011) Proteomic profiling of human plasma by iTRAQ reveals down-regulation of ITI-HC3 and VDBP by cigarette smoking. *J Proteome Res* 10 (3):1151-1159.

- Chatterji B, Borlak J (2007) Serum proteomics of lung adenocarcinomas induced by targeted overexpression of c-raf in alveolar epithelium identifies candidate biomarkers. *Proteomics* 7 (21):3980-3991.
- Chen G, Gharib TG, Thomas DG, Huang CC, Misek DE, Kuick RD, Giordano TJ, Iannettoni MD, Orringer MB, Hanash SM, Beer DG (2003) Proteomic analysis of eIF-5A in lung adenocarcinomas. *Proteomics* 3 (4):496-504.
- Currid CA, O'Connor DP, Chang BD, Gebus C, Harris N, Dawson KA, Dunn MJ, Pennington SR, Roninson IB, Gallagher WM (2006) Proteomic analysis of factors released from p21-overexpressing tumour cells. *Proteomics* 6 (13):3739-3753.
- Deichmann M, Kahle B, Moser K, Wacker J, Wust K (2004) Diagnosing melanoma patients entering American Joint Committee on Cancer stage IV, C-reactive protein in serum is superior to lactate dehydrogenase. *Br J Cancer* 91 (4):699-702.
- Dowlati A, Loo M, Bury T, Fillet G, Beguin Y (1997) Soluble and cell-associated transferrin receptor in lung cancer. *Br J Cancer* 75 (12):1802-1806
- Downey C, Craig DH, Basson MD (2011) Isoform-specific modulation of pressure-stimulated cancer cell proliferation and adhesion by alpha-actinin. *Am J Surg.*202(5):520-3.
- Furstenau DK, Mitra N, Wan F, Lewis R, Feldman MD, Fraker DL, Guvakova MA (2011) Ras-related protein 1 and the insulin-like growth factor type I receptor are associated with risk of progression in patients diagnosed with carcinoma in situ. *Breast Cancer Res Treat* 129 (2):361-372.
- Hanada K, Yamanaka E, Yamamoto N, Minami H, Kawai S, Sasaki Y, Ogata H (2011) Effects of surgery and chronic disease states on the concentrations and phenotype distribution of alpha1-acid glycoprotein: studies in patients with breast cancer and patients with chronic inflammatory disease. *Int J Clin Pharmacol Ther* 49 (7):415-421.
- Hannig M, Dounis E, Henning T, Aplitz N, Stosser L (2006) Does irradiation affect the protein composition of saliva? *Clin Oral Investig* 10 (1):61-65.
- Hsu DK, Dowling CA, Jeng KC, Chen JT, Yang RY, Liu FT (1999) Galectin-3 expression is induced in cirrhotic liver and hepatocellular carcinoma. *Int J Cancer* 81 (4):519-526.
- Hwa JS, Park HJ, Jung JH, Kam SC, Park HC, Kim CW, Kang KR, Hyun JS, Chung KH (2005) Identification of proteins differentially expressed in the conventional renal cell carcinoma by proteomic analysis. *J Korean Med Sci* 20 (3):450-455.
- Ijsselstijn L, Dekker LJ, Stingl C, van der Weiden MM, Hofman A, Kros JM, Koudstaal PJ, Sillevius Smitt PA, Ikram MA, Breteler MM, Luijckx TM (2011) Serum levels of pregnancy zone protein are elevated in presymptomatic Alzheimer's disease. *J Proteome Res* 10 (11):4902-4910.

- Kim HJ, Kang HJ, Lee H, Lee ST, Yu MH, Kim H, Lee C (2009) Identification of S100A8 and S100A9 as serological markers for colorectal cancer. *J Proteome Res* 8 (3):1368-1379.
- Klein RJ, Hallden C, Cronin AM, Ploner A, Wiklund F, Bjartell AS, Stattin P, Xu J, Scardino PT, Offit K, Vickers AJ, Gronberg H, Lilja H (2010) Blood biomarker levels to aid discovery of cancer-related single-nucleotide polymorphisms: kallikreins and prostate cancer. *Cancer Prev Res (Phila)* 3 (5):611-619.
- Kuramitsu Y, Zhang X, Wang Y, Nakamura K (2011) Identification of differentially expressed proteins in tumour necrosis factor-alpha-resistant and -sensitive rat hepatoma cells. *Anticancer Res* 31 (6):2059-2063.
- Kwak JY, Ma TZ, Yoo MJ, Choi BH, Kim HG, Kim SR, Yim CY, Kwak YG (2004) The comparative analysis of serum proteomes for the discovery of biomarkers for acute myeloid leukemia. *Exp Hematol* 32 (9):836-842.
- Newlaczyl AU, Yu LG (2011) Galectin-3 - A jack-of-all-trades in cancer. *Cancer Lett.* 313(2):123-8
- Orywal K, Jelski W, Zdrodowski M, Szmitkowski M (2010) The activity of class I, II, III, and IV alcohol dehydrogenase isoenzymes and aldehyde dehydrogenase in endometrial cancer. *J Clin Lab Anal* 24 (5):334-339.
- Rainero I, Rubino E, Gallone S, Fenoglio P, Negro E, De Martino P, Savi L, Pinessi L (2010) Cluster headache is associated with the alcohol dehydrogenase 4 (ADH4) gene. *Headache* 50 (1):92-98.
- Raitanen MP, Marttila T, Nurmi M, Ala-Opas M, Nieminen P, Aine R, Tammela TL (2001) Human complement factor H related protein test for monitoring bladder cancer. *J Urol* 165 (2):374-377.
- Rao PV, Lu X, Standley M, Pattee P, Neelima G, Girish G, Dakshinamurthy KV, Roberts CT, Jr., Nagalla SR (2007) Proteomic identification of urinary biomarkers of diabetic nephropathy. *Diabetes Care* 30 (3):629-637.
- Roetto A, Totaro A, Piperno A, Piga A, Longo F, Garozzo G, Cali A, De Gobbi M, Gasparini P, Camaschella C (2001) New mutations inactivating transferrin receptor 2 in hemochromatosis type 3. *Blood* 97 (9):2555-2560
- Rossi MC, Zetter BR (1992) Selective stimulation of prostatic carcinoma cell proliferation by transferrin. *Proc Natl Acad Sci U S A* 89 (13):6197-6201
- Ryschich E, Huszty G, Knaebel HP, Hartel M, Buchler MW, Schmidt J (2004) Transferrin receptor is a marker of malignant phenotype in human pancreatic cancer and in neuroendocrine carcinoma of the pancreas. *Eur J Cancer* 40 (9):1418-1422.

- Sakai A, Otani M, Miyamoto A, Yoshida H, Furuya E, Tanigawa N (2011) Identification of phosphorylated serine-15 and -82 residues of HSPB1 in 5-fluorouracil-resistant colorectal cancer cells by proteomics. *J Proteomics*. 75(3):806-18.
- Tas F, Yasasever V, Duranyildiz D, Camlica H, Ustuner Z, Aydiner A, Topuz E (2004) Clinical value of protein S100 and melanoma-inhibitory activity (MIA) in malignant melanoma. *Am J Clin Oncol* 27 (3):225-228.
- Taysi S, Akcay F, Uslu C, Dogru Y, Gulcin I (2003) Trace elements and some extracellular antioxidant protein levels in serum of patients with laryngeal cancer. *Biol Trace Elem Res* 91 (1):11-18.
- Trulsson M, Yu H, Gisselsson L, Chao Y, Urbano A, Aits S, Mossberg AK, Svanborg C (2011) HAMLET binding to alpha-actinin facilitates tumor cell detachment. *PLoS One* 6 (3):e17179.
- Yamaguchi H, Condeelis J (2007) Regulation of the actin cytoskeleton in cancer cell migration and invasion. *Biochim Biophys Acta* 1773 (5):642-652.
- Yamamoto N, Naraparaju VR, Asbell SO (1996) Deglycosylation of serum vitamin D3-binding protein leads to immunosuppression in cancer patients. *Cancer Res* 56 (12):2827-2831
- Yamazaki D, Kurisu S, Takenawa T (2005) Regulation of cancer cell motility through actin reorganization. *Cancer Sci* 96 (7):379-386.
- Yasui W, Oue N, Sentani K, Sakamoto N, Motoshita J (2009) Transcriptome dissection of gastric cancer: identification of novel diagnostic and therapeutic targets from pathology specimens. *Pathol Int* 59 (3):121-136.
- Yu H, Bowden DW, Spray BJ, Rich SS, Freedman BI (1998) Identification of human plasma kallikrein gene polymorphisms and evaluation of their role in end-stage renal disease. *Hypertension* 31 (4):906-911
- Zhang J, Wong H, Ramanan S, Cheong D, Leong A, Hooi SC (2003) The proline-rich acidic protein is epigenetically regulated and inhibits growth of cancer cell lines. *Cancer Res* 63 (20):6658-6665
- Zhang R, Barker L, Pinchev D, Marshall J, Rasamoeliso M, Smith C, Kupchak P, Kireeva I, Ingratta L, Jackowski G (2004) Mining biomarkers in human sera using proteomic tools. *Proteomics* 4 (1):244-256.
- Zivanovic S, Rackov LP, Zivanovic A, Jevtic M, Nikolic S, Kocic S (2011) Cartilage oligomeric matrix protein - inflammation biomarker in knee osteoarthritis. *Bosn J Basic Med Sci* 11 (1):27-32