

Retracted papers of Dr. Anil Potti, M.D.

The following ten papers that Potti coauthored were retracted for varying reasons.

A Genomic Approach to Colon Cancer Risk Stratification Yields Biologic Insights into Therapeutic Opportunities

This article was published by *PNAS*. Gene expressions could allow the researchers to see if tumors are uniform throughout. This could also be used with colon cancer. They also can help predict how a person will respond to treatment and improve prognosis. The authors said they wanted to retract this article because "...we have been unable to reproduce certain key experiments described in the paper regarding validation and use of the colon cancer prognostic signature. This includes the validation performed with dataset E-MEXP-1224, as reported in Fig. 2A, as well as the generation of prognostic scores for colon cancer cell lines, as reported in Fig. 4..."

Validation of Gene Signatures that Predict the Response of Breast Cancer to Neoadjuvant Chemotherapy

This article was published in *Lancet Oncology*. This study involved patients with oestrogen-receptor-negative breast cancer. The researchers wanted to confirm their previous studies of gene-expression signatures in predicting the effects of chemotherapeutic drugs. The article was retracted because the validity of the results was beginning to be questioned and because predictions were made off of the *Nature Medicine* article that was retracted.

Genomic Signatures to Guide the Use of Chemotherapeutics

This article was published in *Nature Medicine*. Gene expression signatures were developed with in vitro drug sensitivity data and Affymetrix microarray data. These were used to help predict response and sensitivity to chemotherapeutic drugs as well as corresponding drugs. This article was retracted after being corrected because many key experiments could not be reproduced.

Gene Expression Signatures, Clinicopathological Features, and Individualized Therapy in Breast Cancer

This article was published in *JAMA* (Journal of American Medicine Association). The patients had early-stage breast carcinoma. The study's main point was to find if gene expression signatures could refine breast cancer prognosis. This article talks about cancer, genomic technology, and chemotherapy and radiation. This article was retracted because a large part of the article was based on another article that Potti had written and had published in *Nature Medicine*. The article in *Nature Medicine* had been retracted because of failure to reproduce results.

Pharmacogenomic Strategies Provide a Rational Approach to the Treatment of Cisplatin-Resistant Patients with Advanced Cancer

This article was published in the *Journal of Clinical Oncology*. Usually, platinum-based chemotherapy is used to treat non-small cell lung cancer, but how patients respond is highly variable. This article also talks about predicting how individuals will respond to cisplatin and pemetrexed. This article was retracted because experiments could not be reproduced.

Gene-expression Patterns Predict Phenotypes of Immune-mediated Thrombosis

This article was published in the journal *Blood*. Venous thromboembolism (VTE) affects about 3 in 1000 Americans. Out of the three, 10% have aPLAs. This study consisted of 129 patients. Out of those 129, 57 had APS and VTE, 32 had VTE without aPLA, 32 had aPLA, and 8 were healthy. Gene-expression profiles identify and predict individuals with APS from patients with VTE without

aPLA. It is important to be able to predict APS and venous thrombosis because it will help with the management of the disease. This article was retracted because the other authors were unable to reproduce the data Potti cited.

A Genomic Strategy to Refine Prognosis in Early-Stage Non-Small-Cell Lung Cancer

This article was published in the *New England Journal of Medicine*. The patients of this study were in stage IB, II, or IIIA of non-small cell lung cancer. Many patients receive surgery, but the risk of relapse is high. Others receive toxic chemotherapy unnecessarily. This study used gene-expressions to evaluate what form of treatment would be best. This article was retracted by the authors because they could not reproduce the results from the article.

An Integrated Approach to the Prediction of Chemotherapeutic Response in Patients with Breast Cancer

This article was published in *PLoS ONE*. It is important for cancer patients to receive the most effective treatment while also hopefully having the best quality of life possible. The researchers developed mRNA and microRNA profiles. They tested the mRNA profiles on 133 breast cancer patients. These breast cancer patients had been treated with TFAC chemotherapy treatment. This article was retracted as some of the information used in it derived from the *Nature Medicine* article which had been retracted. As that article had been retracted, it was felt that this article should be, as well.

An Integrated Genomic-Based Approach to Individualized Treatment of Patients With Advanced-Stage Ovarian Cancer

This paper was published in the *Journal of Clinical Oncology* in February 2007. The research studied ovarian cancer patient responses to platinum-based therapy. This marks the latest in a series of about 13 expected Potti retractions, with another 13 expected partial retractions.

Characterizing the Clinical Relevance of an Embryonic Stem Cell Phenotype in Lung Adenocarcinoma

This paper was published in *Clinical Cancer Research* on 15 December 2009. The study purportedly found a common gene expression pattern between lung adenocarcinomas and normal human embryonic stem cells that was associated with a shorter survival of patients with the lung cancer. On 21 February 2012, the manuscript was retracted. The retraction statement was signed by all authors and indicated "that clinical information from a data set ... available at the time of the signature development, was incorrect". Further, that statement indicated that "Drs. Anil Potti and Marvaretta Stevenson take full responsibility for this error".

Paper under suspicion

- *Age- and Sex-Specific Genomic Profiles in Non-Small Cell Lung Cancer* was published in the *Journal of the American Medicine Association* (JAMA). This study, conducted at Duke University from July 2008 until June 2009, investigated age and gender influence on response to cancer by studying the genes of 787 non-small cell lung cancer patients. The article is under review but has not been retracted as of February 2012.

Retracted manuscripts

- Potti, Anil; Dressman, Holly K.; Bild, Andrea; Riedel, Richard F.; Chan, Gina; Sayer, Robyn; Cragun, Janiel; Cottrill, Hope; Kelley, Michael J.; Petersen, Rebecca P.; Harpole, David H.; Marks, Jeffrey; Berchuck, Andrew; Ginsburg, Geoffrey; Febbo, Phillip; Lancaster,

- Johnathan; Nevins, Joseph R. (2006). "Genomic signatures to guide the use of chemotherapeutics". *Nature Medicine* **12** (11): 1294–1300. doi:10.1038/nm1491. PMID 17057710. **(Retracted)**
- Bonnefoi, Hervé; Potti, Anil; Delorenzi, Mauro; Mauriac, Louis; Campone, Mario; Tubiana-Hulin, Michèle; Petit, Thierry; Rouanet, Philippe; Jassem, Jacek; Blot, Emmanuel; Becette, Véronique; Farmer, Pierre; André, Sylvie; Acharya, Chaitanya R.; Mukherjee, Sayan; Cameron, David; Bergh, Jonas; Nevins, Joseph R.; Iggo, Richard D. (2007). "RETRACTED: Validation of gene signatures that predict the response of breast cancer to neoadjuvant chemotherapy: A substudy of the EORTC 10994/BIG 00-01 clinical trial". *The Lancet Oncology* **8** (12): 1071–78. doi:10.1016/S1470-2045(07)70345-5. PMID 18024211. **(Retracted)**
 - Potti, Anil; Mukherjee, Sayan; Petersen, Rebecca; Dressman, Holly K.; Bild, Andrea; Koontz, Jason; Kratzke, Robert; Watson, Mark A.; Kelley, Michael; Ginsburg, Geoffrey; West, Mike; Harpole, David H.; Nevins, Joseph R. (2006). "A Genomic Strategy to Refine Prognosis in Early-Stage Non-Small-Cell Lung Cancer". *New England Journal of Medicine* **355** (6): 570–80. doi:10.1056/NEJMoa060467. PMID 16899777. **(Retracted)**
 - Potti, Anil; Bild, A.; Dressman, HK; Lewis, D.A.; Nevins, J.R.; Ortel, TL (2006). "Gene-expression patterns predict phenotypes of immune-mediated thrombosis". *Blood* **107** (4): 1391–96. doi:10.1182/blood-2005-07-2669. PMC 1895419. PMID 16263789. **(Retracted)**
 - Garman, Katherine S.; Acharya, Chaitanya R.; Edelman, Elena; Grade, Marian; Gaedcke, Jochen; Sud, Shivani; Barry, William; Diehl, Anna Mae; Provenzale, Dawn; Ginsburg, Geoffrey S.; Ghadimi, B. Michael; Ried, Thomas; Nevins, Joseph R.; Mukherjee, Sayan; Hsu, David; Potti, Anil (2008). "A genomic approach to colon cancer risk stratification yields biologic insights into therapeutic opportunities". *Proceedings of the National Academy of Sciences of the United States of America* **105** (49): 19432–37. doi:10.1073/pnas.0806674105. PMC 2592987. PMID 19050079. **(Retracted)**
 - Salter, Kelly H.; Acharya, Chaitanya R.; Walters, Kelli S.; Redman, Richard; Anguiano, Ariel; Garman, Katherine S.; Anders, Carey K.; Mukherjee, Sayan; Dressman, Holly K.; Barry, William T.; Marcom, Kelly P.; Olson, John; Nevins, Joseph R.; Potti, Anil (2008). Ouchi, Toru, ed. "An Integrated Approach to the Prediction of Chemotherapeutic Response in Patients with Breast Cancer". *PLoS ONE* **3** (4): e1908. doi:10.1371/journal.pone.0001908. PMC 2270912. PMID 18382681. **(Retracted)**
 - Hsu, David S.; Balakumaran, Bala S.; Acharya, Chaitanya R.; Vlahovic, Vanja; Walters, Kelli S.; Garman, Katherine; Anders, Carey; Riedel, Richard F.; Lancaster, Johnathan; Harpole, David; Dressman, Holly K.; Nevins, Joseph R.; Febbo, Phillip G.; Potti, Anil (2007). "Pharmacogenomic Strategies Provide a Rational Approach to the Treatment of Cisplatin-Resistant Patients with Advanced Cancer". *Journal of Clinical Oncology* **25** (28): 4350–7. doi:10.1200/JCO.2007.11.0593. PMID 17906199. **(Retracted)**
 - Acharya, Chaitanya R.; Hsu, David S.; Anders, Carey K.; Anguiano, Ariel; Salter, Kelly H.; Walters, Kelli S.; Redman, Richard C.; Tuchman, Sascha A.; Moylan, Cynthia A.; Mukherjee, Sayan; Barry, William T.; Dressman, Holly K.; Ginsburg, Geoffrey S.; Marcom, Kelly P.; Garman, Katherine S.; Lyman, Gary H.; Nevins, Joseph R.; Potti, Anil (2008). "Gene expression signatures, clinicopathological features, and individualized therapy in breast cancer". *Journal of American Medical Association* **299** (13): 1574–87. doi:10.1001/jama.299.13.1574. PMID 18387932. **(Retracted)**
 - Dressman, Holly K.; Berchuck, Andrew; Chan, Gina; Zhai, Jun; Bild, Andrea; Sayer, Robyn; Cragun, Janiel; Clarke, Jennifer; Whitaker, Regina S.; Li, LiHua; Gray, Jonathan; Marks, Jeffrey; Ginsburg, Geoffrey S.; Potti, Anil; West, Mike; Nevins, Joseph R.; Lancaster, Johnathan M. (2007). "An integrated genomic-based approach to individualized treatment of patients with advanced-stage ovarian cancer". *Journal of Clinical Oncology* **25** (5): 517–25. doi:10.1200/JCO.2006.06.3743. PMID 17290060. **(Retracted)**
 - Stevenson, Marvaretta; Mostertz, William; Acharya, Chaitanya; Kim, William; Walters,

Kelli; Barry, William; Higgins, Kristin; Tuchman, Sascha A.; Crawford, Jeffrey; Vlahovic, Gordana; Ready, Neal; Onaitis, Mark; Potti, Anil (2009). "Characterizing the Clinical Relevance of an Embryonic Stem Cell Phenotype in Lung Adenocarcinoma". *Clinical Cancer Research* **15** (24): 7553–7561. doi:10.1158/1078-0432.CCR-09-1939. PMID 19996213. (Retracted)

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