

Stanford



Michael F. Clarke, M.D.

Karel H. and Avice N. Beekhuis Professor in Cancer Biology
Medicine - Oncology

CONTACT INFORMATION

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Bio

ACADEMIC APPOINTMENTS

- Professor, Medicine - Oncology
- Member, Bio-X
- Associate Director, Institute for Stem Cell Biology and Regenerative Medicine
- Member, Stanford Cancer Institute

HONORS AND AWARDS

- American Association of Physicians, - (-)
- American Society of Clinical Investigation, - (-)
- Rackham Award, University of Michigan (-)

PROFESSIONAL EDUCATION

- M.D., Indiana University (1977)
- B.A., Indiana University (1973)

LINKS

- Clarke Lab Site: <http://med.stanford.edu/stemcell/institutefaculty/clarke.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Michael F. Clarke is the Karel and Avice Beekhuis Professor in Cancer Biology and Associate Director of the Stanford Institute for Stem Cell and Regenerative Medicine. He is a board certified oncologist with extensive training in molecular biology and stem cell biology. In addition to his clinical duties in the division of Oncology, Dr. Clarke maintains a laboratory focused on two areas of research: i) the control of self-renewal of normal stem cells and their malignant counterparts; and ii) the identification and characterization of cancer stem cells. The main objectives of his laboratory are to pursue how perturbations in the self-renewal machinery contribute to human diseases and to use the findings to aid the development of more effective treatment therapies.

His laboratory has a long history of innovative findings which include: the first to demonstrate that inappropriate expression of a normal gene could cause a tumor; the first to identify a dominant-negative splice variant of an oncogene; the first to identify a molecular regulator of stem cell self-renewal; the first to identify a solid tumor stem cell (in breast cancer) and the first to demonstrate a molecular linkage of a self-renewal program used by normal mammary stem cells and breast cancer cells. Recently, his group described a molecular mechanism that confers resistance to radiation in breast cancer stem cells.

His group was the first to discover that the proto-oncogene Bmi-1 regulates stem cell self-renewal via an epigenetic mechanism. By examining the pathways upstream and downstream of Bmi1, hence the molecular pathways that regulate self-renewal, his laboratory found that USP16, a protein that dampens Bmi1 signals, causes a stem cell defect in various stem cells in Down's syndrome, including neural stem cells.

Since cancers arise as a result of a series of genetic mutations, a better understanding of the consequences of these mutations on the underlying biology of the neoplastic cells will help the development of more effective therapies. Solid tumors such as breast cancers contain heterogeneous populations of neoplastic cells. Through collaboration, his group pioneered and organized a team to use single cell genomics to understand complex tissue hierarchy in normal and malignant cells present in human breast, colon and head and neck cancer tumors. Only a small minority of cancer cells had the capacity to form new tumors in a xenograft model. This tumorigenic cell population could be identified prospectively and consistently had definable and identical phenotype. The tumorigenic cells displayed stem cell-like properties in that they were capable of generating new tumors containing additional stem cells as well as regenerating the phenotypically mixed populations of non-tumorigenic cells present in the original tumor. Effective treatment of cancer will require therapeutic strategies that are able to target and eliminate this tumorigenic subset of cells. His laboratory is pursuing the identification of cancer stem cells in other tumors so that they can be studied. Finally, the laboratory is actively pursuing how cancer stem cells self-renew to maintain themselves and escape the genetic constraints on unlimited self-renewal that regulate normal stem cell numbers. Differences in self-renewal pathways between normal and malignant stem cells could be targeted by new therapeutic agents to eliminate cancer stem cells.

CLINICAL TRIALS

- Biopsy of Human Tumors for Cancer Stem Cell Characterization: a Feasibility Study, Not Recruiting

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Gunsagar Gulati

Postdoctoral Faculty Sponsor

Vinnie Alford, Jane Antony, Zhen Qi, Andre St Amant

Doctoral Dissertation Advisor (AC)

Elizabeth Chen

Postdoctoral Research Mentor

Vinnie Alford, Andre St Amant

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Cancer Biology (Phd Program)
- Stem Cell Biology and Regenerative Medicine (Phd Program)

Publications

PUBLICATIONS

- **Bcl11b maintains the long-term mammary stem cell and is crucial for drug resistance in breast cancer.**
Cai, S., Kalisky, T., Dalerba, P., Clarke, M., Stanford Univ
AMER ASSOC CANCER RESEARCH.2018: 23
- **Single-cell transcriptomics of 20 mouse organs creates a Tabula Muris.** *Nature*
2018; 562 (7727): 367–72
- **Stromal Gli2 activity coordinates a niche signaling program for mammary epithelial stem cells** *SCIENCE*
Zhao, C., Cai, S., Shin, K., Lim, A., Kalisky, T., Lu, W., Clarke, M. F., Beachy, P. A.
2017; 356 (6335): 284-?
- **A Quiescent Bcl11b High Stem Cell Population Is Required for Maintenance of the Mammary Gland.** *Cell stem cell*
Cai, S., Kalisky, T., Sahoo, D., Dalerba, P., Feng, W., Lin, Y., Qian, D., Kong, A., Yu, J., Wang, F., Chen, E. Y., Scheeren, F. A., Kuo, et al
2017; 20 (2): 247-260 e5
- **Targeted chromatin ligation, a robust epigenetic profiling technique for small cell numbers.** *Nucleic acids research*
Zarnegar, M. A., Reinitz, F., Newman, A. M., Clarke, M. F.
2017; 45 (17): e153
- **CDX2 as a Prognostic Biomarker in Colon Cancer.** *New England journal of medicine*
Dalerba, P., Sahoo, D., Clarke, M. F.
2016; 374 (22): 2184-?
- **CDX2 as a Prognostic Biomarker in Stage II and Stage III Colon Cancer** *NEW ENGLAND JOURNAL OF MEDICINE*
Dalerba, P., Sahoo, D., Paik, S., Guo, X., Yothers, G., Song, N., Wilcox-Fogel, N., Forgo, E., Rajendran, P. S., Miranda, S. P., Hisamori, S., Hutchison, J., Kalisky, et al
2016; 374 (3): 211-222
- **A cell-intrinsic role for TLR2-MYD88 in intestinal and breast epithelia and oncogenesis.** *Nature cell biology*
Scheeren, F. A., Kuo, A. H., van Wee, L. J., Cai, S., Glykofridis, I., Sikandar, S. S., Zabala, M., Qian, D., Lam, J. S., Johnston, D., Volkmer, J. P., Sahoo, D., van de Rijn, et al
2014; 16 (12): 1238-1248
- **A cell-intrinsic role for TLR2 MYD88 in intestinal and breast epithelia and oncogenesis** *NATURE CELL BIOLOGY*
Scheeren, F. A., Kuo, A. H., van Wee, L. J., Cai, S., Glykofridis, I., Sikandar, S. S., Zabala, M., Qian, D., Lam, J. S., Johnston, D., Volkmer, J. P., Sahoo, D., van de Rijn, et al
2014; 16 (12): 1238-U245
- **Usp16 contributes to somatic stem-cell defects in Down's syndrome.** *Nature*
Adorno, M., Sikandar, S., Mitra, S. S., Kuo, A., Nicolis Di Robilant, B., Haro-Acosta, V., Ouadah, Y., Quarta, M., Rodriguez, J., Qian, D., Reddy, V. M., Cheshier, S., Garner, et al
2013; 501 (7467): 380-384
- **Identification of a cKit(+) Colonic Crypt Base Secretory Cell That Supports Lgr5(+) Stem Cells in Mice** *GASTROENTEROLOGY*
Rothenberg, M. E., Nusse, Y., Kalisky, T., Lee, J. J., Dalerba, P., Scheeren, F., Lobo, N., Kulkarni, S., Sim, S., Qian, D., Beachy, P. A., Pasricha, P. J., Quake, et al
2012; 142 (5): 1195-?
- **Single-cell dissection of transcriptional heterogeneity in human colon tumors** *NATURE BIOTECHNOLOGY*
Dalerba, P., Kalisky, T., Sahoo, D., Rajendran, P. S., Rothenberg, M. E., Leyrat, A. A., Sim, S., Okamoto, J., Johnston, D. M., Qian, D., Zabala, M., Bueno, J., Neff, et al
2011; 29 (12): 1120-U11
- **Downregulation of miRNA-200c Links Breast Cancer Stem Cells with Normal Stem Cells** *CELL*
Shimono, Y., Zabala, M., Cho, R. W., Lobo, N., Dalerba, P., Qian, D., Diehn, M., Liu, H., Panula, S. P., Chiao, E., Dirbas, F. M., Somlo, G., Pera, et al
2009; 138 (3): 592-603

- **Association of reactive oxygen species levels and radioresistance in cancer stem cells** *NATURE*
Diehn, M., Cho, R. W., Lobo, N. A., Kalisky, T., Dorie, M. J., Kulp, A. N., Qian, D., Lam, J. S., Ailles, L. E., Wong, M., Joshua, B., Kaplan, M. J., Wapnir, et al
2009; 458 (7239): 780-U123
- **Long-term haematopoietic reconstitution by Trp53(-/-)p16(Ink4a-/-)p19(Arf-/-) multipotent progenitors** *NATURE*
Akala, O. O., Park, I., Qian, D., Pihalja, M., Becker, M. W., Clarke, M. F.
2008; 453 (7192): 228-U12
- **The prognostic role of a gene signature from tumorigenic breast-cancer cells.** *NEW ENGLAND JOURNAL OF MEDICINE*
Liu, R., Wang, X., Chen, G. Y., Dalerba, P., Gurney, A., Hoey, T., Sherlock, G., Lewicki, J., Shedden, K., Clarke, M. F.
2007; 356 (3): 217-226
- **Bmi-1 is required for maintenance of adult self-renewing hematopoietic stem cells** *32nd Annual Meeting of the International-Society-for-Experimental-Hematology*
Park, I., Qian, D., Kiel, M., Becker, M., Prohaska, S., Weissman, I., Morrison, S., Clarke, M.
ELSEVIER SCIENCE INC.2003: 104–
- **Serially transplantable mammary epithelial cells express the Thy-1 antigen.** *Breast cancer research : BCR*
Lobo, N. A., Zabala, M., Qian, D., Clarke, M. F.
2018; 20 (1): 121
- **The DLK1-DIO3 imprinted region regulates long-term proliferation in normal and malignant breast epithelium**
Zabala, M., Lobo, N. A., Seoane, J. A., Stelzer, Y., Luong, A. V., Isobe, T., Zarnegar, M. A., Watanabe, N., Antonana, S., Lam, J., Qian, D., Sikandar, S. S., Kuo, et al
AMER ASSOC CANCER RESEARCH.2018: 95
- **Characterizing the role of the nuclear coactivator AIB1 in triple-negative breast cancer.**
Cai, S., Kalisky, T., Dalerba, P., Clarke, M., Stanford Univ
AMER ASSOC CANCER RESEARCH.2018: 42–43
- **A CD47-associated super-enhancer links pro-inflammatory signalling to CD47 upregulation in breast cancer** *NATURE COMMUNICATIONS*
Betancur, P. A., Abraham, B. J., Yiu, Y. Y., Willingham, S. B., Khameneh, F., Zarnegar, M., Kuo, A. H., McKenna, K., Kojima, Y., Leeper, N. J., Ho, P., Gip, P., Swigut, et al
2017; 8
- **Colorectal Cancer Liver Metastasis: Evolving Paradigms and Future Directions.** *Cellular and molecular gastroenterology and hepatology*
Zarour, L. R., Anand, S., Billingsley, K. G., Bisson, W. H., Cercek, A., Clarke, M. F., Coussens, L. M., Gast, C. E., Geltzeiler, C. B., Hansen, L., Kelley, K. A., Lopez, C. D., Rana, et al
2017; 3 (2): 163-173
- **Role of epithelial to mesenchymal transition associated genes in mammary gland regeneration and breast tumorigenesis.** *Nature communications*
Sikandar, S. S., Kuo, A. H., Kalisky, T., Cai, S., Zabala, M., Hsieh, R. W., Lobo, N. A., Scheeren, F. A., Sim, S., Qian, D., Dirbas, F. M., Somlo, G., Quake, et al
2017; 8 (1): 1669
- **Control of inflammation by stromal Hedgehog pathway activation restrains colitis.** *Proceedings of the National Academy of Sciences of the United States of America*
Lee, J. J., Rothenberg, M. E., Seeley, E. S., Zimdahl, B., Kawano, S., Lu, W., Shin, K., Sakata-Kato, T., Chen, J. K., Diehn, M., Clarke, M. F., Beachy, P. A.
2016
- **KIT Signaling Promotes Growth of Colon Xenograft Tumors in Mice and Is Up-Regulated in a Subset of Human Colon Cancers** *GASTROENTEROLOGY*
Chen, E. C., Karl, T. A., Kalisky, T., Gupta, S. K., O'Brien, C. A., Longacre, T. A., De Rijn, M. V., Quake, S. R., Clarke, M. F., Rothenberg, M. E.
2015; 149 (3): 705-?
- **KIT Signaling Promotes Growth of Colon Xenograft Tumors in Mice and Is Up-Regulated in a Subset of Human Colon Cancers.** *Gastroenterology*
Chen, E. C., Karl, T. A., Kalisky, T., Gupta, S. K., O'Brien, C. A., Longacre, T. A., van de Rijn, M., Quake, S. R., Clarke, M. F., Rothenberg, M. E.
2015; 149 (3): 705-17 e2
- **miR-142 regulates the tumorigenicity of human breast cancer stem cells through the canonical WNT signaling pathway** *ELIFE*
Isobe, T., Hisamori, S., Hogan, D. J., Zabala, M., Hendrickson, D. G., Dalerba, P., Cai, S., Scheeren, F., Kuo, A. H., Sikandar, S. S., Lam, J. S., Qian, D., Dirbas, et al

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- **Quantitative assessment of single-cell RNA-sequencing methods.** *Nature methods*
Wu, A. R., Neff, N. F., Kalisky, T., Dalerba, P., Treutlein, B., Rothenberg, M. E., Mburu, F. M., Mantalas, G. L., Sim, S., Clarke, M. F., Quake, S. R.
2014; 11 (1): 41-46
- **miR-142 regulates the tumorigenicity of human breast cancer stem cells through the canonical WNT signaling pathway.** *eLife*
Isobe, T., Hisamori, S., Hogan, D. J., Zabala, M., Hendrickson, D. G., Dalerba, P., Cai, S., Scheeren, F., Kuo, A. H., Sikandar, S. S., Lam, J. S., Qian, D., Dirbas, et al
2014; 3
- **Quantitative assessment of single-cell RNA-sequencing methods.** *Nature methods*
Wu, A. R., Neff, N. F., Kalisky, T., Dalerba, P., Treutlein, B., Rothenberg, M. E., Mburu, F. M., Mantalas, G. L., Sim, S., Clarke, M. F., Quake, S. R.
2014; 11 (1): 41-46
- **Usp16 contributes to somatic stem-cell defects in Down's syndrome.** *Nature*
Adorno, M., Sikandar, S., Mitra, S. S., Kuo, A., Nicolis Di Robilant, B., Haro-Acosta, V., Ouadah, Y., Quarta, M., Rodriguez, J., Qian, D., Reddy, V. M., Cheshier, S., Garner, et al
2013; 501 (7467): 380-384
- **Oncogenic miRNAs and the perils of losing control of a stem cell's epigenetic identity.** *Cell stem cell*
Dalerba, P., Clarke, M. F.
2013; 13 (1): 5-6
- **Identifying the metastatic seeds of breast cancer.** *Nature biotechnology*
Kuo, A. H., Clarke, M. F.
2013; 31 (6): 504-505
- **Intravital multiphoton imaging reveals multicellular streaming as a crucial component of in vivo cell migration in human breast tumors.** *Intravital*
Patsialou, A., Bravo-Cordero, J. J., Wang, Y., Entenberg, D., Liu, H., Clarke, M., Condeelis, J. S.
2013; 2 (2)
- **MicroRNA-30c inhibits human breast tumour chemotherapy resistance by regulating TWF1 and IL-11** *NATURE COMMUNICATIONS*
Bockhorn, J., Dalton, R., Nwachukwu, C., Huang, S., Prat, A., Yee, K., Chang, Y., Huo, D., Wen, Y., Swanson, K. E., Qiu, T., Lu, J., Park, et al
2013; 4
- **MicroRNA-30c targets cytoskeleton genes involved in breast cancer cell invasion** *BREAST CANCER RESEARCH AND TREATMENT*
Bockhorn, J., Yee, K., Chang, Y., Prat, A., Huo, D., Nwachukwu, C., Dalton, R., Huang, S., Swanson, K. E., Perou, C. M., Olopade, O. I., Clarke, M. F., Greene, et al
2013; 137 (2): 373-382
- **Innate immune response to homologous rotavirus infection in the small intestinal villous epithelium at single-cell resolution** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Sen, A., Rothenberg, M. E., Mukherjee, G., Feng, N., Kalisky, T., Nair, N., Johnstone, I. M., Clarke, M. F., Greenberg, H. B.
2012; 109 (50): 20667-20672
- **Remodeling of Endogenous Mammary Epithelium by Breast Cancer Stem Cells** *STEM CELLS*
Parashurama, N., Lobo, N. A., Ito, K., Mosley, A. R., Habte, F. G., Zabala, M., Smith, B. R., Lam, J., Weissman, I. L., Clarke, M. F., Gambhir, S. S.
2012; 30 (10): 2114-2127
- **Effect of stimulation of natural killer cells with an anti-CD137 mAb on the efficacy of trastuzumab, cetuximab, and rituximab** *48th Annual Meeting of the American-Society-of-Clinical-Oncology (ASCO)*
Kohrt, H. E., Houot, R., Weiskopf, K., Goldstein, M., Lund, P., Scheeren, F., Czerwinski, D., Colevas, A. D., Weng, W., Clarke, M. F., Carlson, R. W., Sunwoo, J., Tedder, et al
AMER SOC CLINICAL ONCOLOGY.2012
- **The CD47-signal regulatory protein alpha (SIRPα) interaction is a therapeutic target for human solid tumors** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Willingham, S. B., Volkmer, J., Gentles, A. J., Sahoo, D., Dalerba, P., Mitra, S. S., Wang, J., Contreras-Trujillo, H., Martin, R., Cohen, J. D., Lovelace, P., Scheeren, F. A., Chao, et al
2012; 109 (17): 6662-6667

- **Stimulation of natural killer cells with a CD137-specific antibody enhances trastuzumab efficacy in xenotransplant models of breast cancer** *JOURNAL OF CLINICAL INVESTIGATION*
Kohrt, H. E., Houot, R., Weiskopf, K., Goldstein, M. J., Scheeren, F., Czerwinski, D., Colevas, A. D., Weng, W., Clarke, M. F., Carlson, R. W., Stockdale, F. E., Mollick, J. A., Chen, et al
2012; 122 (3): 1066-1075
- **Removal of lactate dehydrogenase-elevating virus from human-in-mouse breast tumor xenografts by cell-sorting** *JOURNAL OF VIROLOGICAL METHODS*
Liu, H., Bockhorn, J., Dalton, R., Chang, Y., Qian, D., Zitzow, L. A., Clarke, M. F., Greene, G. L.
2011; 173 (2): 266-270
- **Cancer stem cells from human breast tumors are involved in spontaneous metastases in orthotopic mouse models** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Liu, H., Patel, M. R., Prescher, J. A., Patsialou, A., Qian, D., Lin, J., Wen, S., Chang, Y., Bachmann, M. H., Shimono, Y., Dalerba, P., Adorno, M., Lobo, et al
2010; 107 (42): 18115-18120
- **The Myc Connection: ES Cells and Cancer** *CELL*
Rothenberg, M. E., Clarke, M. F., Diehn, M.
2010; 143 (2): 184-186
- **DLL4 Blockade Inhibits Tumor Growth and Reduces Tumor-Initiating Cell Frequency** *CELL STEM CELL*
Hoey, T., Yen, W., Axelrod, F., Basi, J., Donigian, L., Dylla, S., Fitch-Bruhns, M., Lazetic, S., Park, I., Sato, A., Satyal, S., Wang, X., Clarke, et al
2009; 5 (2): 168-177
- **RADIATION THERAPY ONCOLOGY GROUP TRANSLATIONAL RESEARCH PROGRAM STEM CELL SYMPOSIUM: INCORPORATING STEM CELL HYPOTHESES INTO CLINICAL TRIALS** *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY BIOLOGY PHYSICS*
Woodward, W. A., Bristow, R. G., Clarke, M. F., Coppes, R. P., Cristofanilli, M., Duda, D. G., Fike, J. R., Hambardzumyan, D., Hill, R. P., Jordan, C. T., Milas, L., Pajonk, F., Curran, et al
2009; 74 (5): 1580-1591
- **Automated microfluidic chromatin immunoprecipitation from 2,000 cells** *LAB ON A CHIP*
Wu, A. R., Hiatt, J. B., Lu, R., Attema, J. L., Lobo, N. A., Weissman, I. L., Clarke, M. F., Quake, S. R.
2009; 9 (10): 1365-1370
- **Therapeutic Implications of the Cancer Stem Cell Hypothesis** *SEMINARS IN RADIATION ONCOLOGY*
Diehn, M., Cho, R. W., Clarke, M. F.
2009; 19 (2): 78-86
- **Dysregulated gene expression networks in human acute myelogenous leukemia stem cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Majetl, R., Becker, M. W., Tian, Q., Lee, T. M., Yan, X., Liu, R., Chiang, J., Hood, L., Clarke, M. F., Weissman, I. L.
2009; 106 (9): 3396-3401
- **Identification of Conserved Gene Expression Programs in Epithelial Cancer Stem Cells** *51st Annual Meeting of the American-Society-for-Radiation-Oncology (ASTRO)*
Diehn, M., Cho, R. W., Ailles, L., Lam, J. S., Kaplan, M. J., Somlo, G., Weissman, I. L., Clarke, M. F.
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- **Colorectal Cancer Stem Cells Are Enriched in Xenogeneic Tumors Following Chemotherapy** *PLOS ONE*
Dylla, S. J., Bevilgia, L., Park, I., Chartier, C., Raval, J., Ngan, L., Pickell, K., Aguilar, J., Lazetic, S., Smith-Berdan, S., Clarke, M. F., Hoey, T., Lewicki, et al
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- **Recent advances in cancer stem cells** *CURRENT OPINION IN GENETICS & DEVELOPMENT*
Cho, R. W., Clarke, M. F.
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- **Isolation and molecular characterization of cancer stem cells in MMTV-Wnt-1 murine breast tumors** *STEM CELLS*
Cho, R. W., Wang, X., Diehn, M., Shedden, K., Chen, G. Y., Sherlock, G., Gurney, A., Lewicki, J., Clarke, M. F.
2008; 26 (2): 364-371
- **What can we learn about breast cancer from stem cells?** *5th International Symposium on Hormonal Carcinogenesis*
Clarke, M. F.

SPRINGER-VERLAG BERLIN.2008: 17–22

- **Investigating mechanisms of cancer stem cell radioresistance** *50th Annual Meeting of the American-Society-for-Therapeutic-Radiology-and-Oncology (ASTRO)*
Diehn, M., Cho, R. W., Dorie, M., KULP, A., Weissman, I. L., Brown, M., Clarke, M. F.
ELSEVIER SCIENCE INC.2008: S29–S29
- **Cancer stem cells in head and neck squamous carcinoma**
Ailles, L., Prince, M., Joshua, B., Doweck, I., Kaplan, M., Clarke, M., Weissman, I.
AMER ASSOC CANCER RESEARCH.2007: 3630S–3630S
- **Cancer stem cells and tumor metastasis: First steps into uncharted territory** *CELL STEM CELL*
Dalerba, P., Clarke, M. F.
2007; 1 (3): 241-242
- **Bmi-1-green fluorescent protein-knock-in mice reveal the dynamic regulation of Bmi-1 expression in normal and leukemic hematopoietic cells** *STEM CELLS*
Hosen, N., Yamane, T., Muijtjens, M., Pham, K., Clarke, M. F., Weissman, I. L.
2007; 25 (7): 1635-1644
- **Phenotypic characterization of human colorectal cancer stem cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Dalerba, P., Dylla, S. J., Park, I., Liu, R., Wang, X., Cho, R. W., Hoey, T., Gurney, A., Huang, E. H., Simeone, D. M., Shelton, A. A., Parmiani, G., Castelli, et al
2007; 104 (24): 10158-10163
- **Identification of pancreatic cancer stem cells** *CANCER RESEARCH*
Li, C., Heidt, D. G., Dalerba, P., Burant, C. F., Zhang, L., Adsay, V., Wicha, M., Clarke, M. F., Simeone, D. M.
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- **Identification of a subpopulation of cells with cancer stem cell properties in head and neck squamous cell carcinoma** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Prince, M. E., Sivanandan, R., Kaczorowski, A., Wolf, G. T., Kaplan, M. J., Dalerba, P., Weissman, I. L., Clarke, M. F., Ailles, L. E.
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Liu, T. X., Becker, M. W., Jelinek, J., Wu, W., Deng, M., Mikhailkevich, N., Hsu, K., Bloomfield, C. D., Stone, R. M., DeAngelo, D. J., Galinsky, I. A., Issa, J., Clarke, et al
2007; 13 (1): 78-83
- **The biology of cancer stem cells** *ANNUAL REVIEW OF CELL AND DEVELOPMENTAL BIOLOGY*
Lobo, N. A., Shimono, Y., Qian, D., Clarke, M. F.
2007; 23: 675-699
- **Cancer stem cells: Models and concepts** *ANNUAL REVIEW OF MEDICINE*
Dalerba, P., Cho, R. W., Clarke, M. F.
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- **Cancer stem cells and radiotherapy: New insights into tumor radioresistance** *JOURNAL OF THE NATIONAL CANCER INSTITUTE*
Diehn, M., Clarke, M. F.
2006; 98 (24): 1755-1757
- **Bmi-1-green fluorescent protein (GFP)-knock-in mice reveal the dynamic regulation of Bmi-1 expression in normal and leukemic hematopoietic cells.** *48th Annual Meeting of the American-Society-of-Hematology*
Hosen, N., Clarke, M. F., Weissman, I. L.
AMER SOC HEMATOLOGY.2006: 391A–391A
- **Hematopoietic stem cell self-renewal** *CURRENT OPINION IN GENETICS & DEVELOPMENT*
Akala, O. O., Clarke, M. F.
2006; 16 (5): 496-501
- **Cancer stem cells--perspectives on current status and future directions: AACR Workshop on cancer stem cells.** *Cancer research*
Clarke, M. F., Dick, J. E., Dirks, P. B., Eaves, C. J., Jamieson, C. H., Jones, D. L., Visvader, J., Weissman, I. L., Wahl, G. M.

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- **Stem cells: The real culprits in cancer?** *SCIENTIFIC AMERICAN*
Clarke, M. F., Becker, M. W.
2006; 295 (1): 52-59
- **Stem cells and cancer: Two faces of eve** *CELL*
Clarke, M. F., Fuller, M.
2006; 124 (6): 1111-1115
- **Oncogenes, self-renewal and cancer** *PATHOLOGIE BIOLOGIE*
Clarke, M. F.
2006; 54 (2): 109-111
- **A self-renewal assay for cancer stem cells.** *Cancer chemotherapy and pharmacology*
Clarke, M. F.
2005; 56: 64-68
- **Self-renewal and solid-tumor stem cells** *Tandem BMT Meeting 2005*
Clarke, M. F.
ELSEVIER SCIENCE INC.2005: 14-16
- **Epigenetic regulation of normal and cancer stem cells** *5th International Conference on Hematopoietic Stem Cells*
Clarke, M. F.
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