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Current Positions Professor and Associate Dean, College of Medicine
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Education

07/1984-07/1988 B.Sc. - Pharmacy, Taipei College of Medicine, Taipei, Taiwan
09/1988-07/1990 Military Service (Second Lieutenant of Air Force, Taiwan R.O.C.)
09/1990-12/1995 Ph.D. - Genetics and Cell Biology, University of Minnesota Twin Cities, Minnesota, USA
01/1996-03/1998 Post-doctoral fellow - tumor biology, University of Texas M. D. Anderson Cancer Center, Houston, Texas USA

Expertise

Cellular and molecular biology of cancer, tumor immune microenvironment, cancer progression and therapy, DNA damage and cell proliferation, obesity.

Research Interests

I am interested in using molecular, biochemical, cellular, and genetic experimental approaches to study biological mechanisms underlying normal versus cancer biology including proliferation, metabolism, microenvironment, and metastasis. Our team aims to help solve unmet medical needs in cancer therapy, from drug resistance to targeted therapies, cancer dormancy, to distant dissemination of tumor. Our research highlights the tangled connection between cell transformation and deregulated programming of cell differentiation important for normal physiological functions.

Selected Grants:

1. Ministry of Health and Welfare (MHW), Taiwan (Wang, Project PI) (01/01/18-12/31/20)
China Medical University Hospital Cancer Research Center of Excellence – Breast Cancer
MOHW108-TDU-B-212-122015
Title: Developing new biomarkers and therapeutics for triple negative breast cancer –Overcome immune suppression and enhance response to targeted therapies of TNBC.
2. Ministry of Health and Welfare (MHW), Taiwan (Wang, Project PI) (01/01/18-12/31/20)
China Medical University Hospital Cancer Research Center of Excellence – Colorectal Cancer
MOHW107-TDU-B-212-114024
Title: Developing therapeutic strategies targeting immune checkpoint PD1-1/PD-L1 in colorectal cancer.

3. National Health Research Institute (NHRI), Taiwan (Wang, PI) (01/01/21-12/31/23)
Evading immune surveillance by tyrosine phosphorylation of proliferating cell nuclear antigen (PCNA)

Selected Publications

1. Wang, Y.-L., Chang, L.-C., Chen, K.-B.*, **Wang, S.-C.*** Aptamer-guided targeting of the intracellular long-noncoding RNA *HOTAIR*. *American Journal of Cancer Research*, 2020 (in press). **IF=5.177**
2. **Wang, S.-C.***, Chen, Y*, Wang, Y.-C., Wang, W.-J., Yang, C.-S., Tsai, C.-L., Hou, M.-H., Chen, H.-F., Shen, Y.-C., Hung, M.-C. Tannic acid suppresses SARS-CoV-2 as a dual inhibitor of the viral main protease and the cellular TMPRSS2 protease. *American Journal of Cancer Research*, 2020 (in press). **IF=5.177**
3. Liu, C., Zha, Z., Zhou, C., Chen, Y., Xia, W., Wang, Y.-N., Lee, H.-H., Yin, Y., Yan, M., Chang, C.-W., Chan, L.-C., Qiu, Y., Li, H., Li, C.-W., Hsu, J.-M., Hsu, J. L., **Wang, S.-C.**, Ren, N., Hung, M.-C. Ribonuclease 7-driven activation of ROS1 is a new potential therapeutic target in hepatocellular carcinoma. *Journal of Hepatology*, 2020 (in press). **IF= 20.582**
4. Chan, L.-C., Li, C.-W., Xia, W., Hsu, J.-M., Lee, H.-H., Cha, J.-H., Hung-Ling Wang, H.-L., Yang, W.-H., Yen, E.-Y., Chang, W.-C., Zha, Z., Lim, S.-O., Lai, Y.-J., Liu, C., Liu, J., Dong, Q., Yang, Y., Sun, L., Wei, Y., Nie, L., Hsu, J.L., Li, H., Ye, Q., Hassan, M.M., Amin, H.M., Kaseb, A.O., Lin, X., **Wang, S.-C.**, Hung, M.-C. IL-6/JAK1 pathway drives PD-L1 Y112 phosphorylation to promote cancer immune Evasion. *Journal of Clinical Investigation*, 129, 3324-3338, 2019. **IF=11.864**
5. Lee, H.-H., Wang, Y.-N., Xia, W., Chen, C.-H., Rau, K.-M., Ye, L., Wei, Y., Chou, C.-K., **Wang, S.-C.**, Yan, M., Tu, C.-Y., Hsia, T.-C., Chiang, S.-F., Chao, K.-S., Wistuba, II., Hsu, JL, Hortobagyi, GN, and Hung, M.-C. Removal of N-linked glycosylation enhances PD-L1 detection and predicts anti-PD-1/PD-L1 therapeutic efficacy. *Cancer Cell*, 36, 168-178, 2019. **IF=26.602**
6. Hung, Y., Liu, L.-C., Chen, C.-J., Wang, Y.-L., Lin, Y.-Z., Wu, W.-R., **Wang, S.-C.*** Long non-coding RNA *HOTAIR* in circulatory exosomes is correlated with ErbB2/HER2 positivity in breast cancer. *Breast*, 46, 64-69, 2019. **IF=3.754**
7. Hung, Y., Wang, Y.-L., Lin, Y.-Z., Chiang, S.-F., Wu, W.-R., **Wang, S.-C.*** The exosomal compartment protects epidermal growth factor receptor from small molecule inhibitors. *Biochemical and Biophysical Research Communications*, 510, 42-47, 2019. **IF=2.985**
8. Hunt, B., Wang, Y.-L., Chen, M.-S., **Wang, S.-C.***, Waltz, S.* Maternal diethylhexyl phthalate exposure affects adiposity and insulin tolerance in offspring in a PCNA-dependent manner. *Environmental Research*, 159, 588-594, 2017. **IF=5.715**
9. **Wang, S.-C.*** PCNA – a ubiquitous house keeper or a potential therapeutic target? *Trend in Pharmacological Sciences*, 35, 178-186, 2014. **IF=11.523**
10. Zhao H., Chen, M.-S., Lo, Y.-H., Waltz, S.E., Wang, J., Ho, P.C., Vasilias, J., Plattner, R., Wang, Y.-L., **Wang, S.-C.*** The Ron receptor tyrosine kinase activates c-Abl to promote cell proliferation through tyrosine phosphorylation of PCNA in breast cancer. *Oncogene*, 33, 1429-1437, 2014. **IF=7.971**
11. Lo, Y.-H., Ho, P.-C., Chen, M.-S., Hugo, E., Ben-Jonathan, N., **Wang, S.-C.*** Phosphorylation at tyrosine 114 of Proliferating Cell Nuclear Antigen (PCNA) is required for adipogenesis in response to high fat diet. *Biochemical and Biophysical Research Communications*, 430, 43-48, 2013. **IF=2.985**
12. Lo, Y.-H., Ho, P.-C., **Wang, S.-C.*** Epidermal growth factor receptor (EGFR) protects proliferating cell nuclear antigen (PCNA) from cullin 4A (CUL4A)-mediated proteolysis. *Journal of Biological Chemistry*, 287, 27148-27157, 2012. **IF=4.238**
13. Zhao, H., Lo, Y.-H., Ho, P.-H., Bedford, M.T., Hung, M.-C., and **Wang, S.-C.*** Interaction of proliferation cell nuclear antigen (PCNA) with the non-receptor tyrosine kinase c-Abl in cell proliferation and response to DNA damages in breast cancer cells. *PLoS One*, 7(1), e29416, 2012. **IF=2.740**
14. Hsieh, T.-H., Tsai, C.-F., Hsu, C.-Y., Kuo, P.-L., Lee, J.-N., Chai, C.-Y., **Wang, S.-C.***, Tsai, E.-M.* Phthalates induce proliferation and invasiveness of estrogen receptor-negative breast cancer through the AhR/HDAC6/c-Myc signaling pathway. *Journal of the Federation of American Societies for Experimental Biology*, 26, 778-787, 2012. **IF=4.966**
15. Ding, Q, Chang, C.-J., Xie, X., Xia, W., Yang, J.-Y., **Wang, S.-C.**, Wang, Y., Xia, J., Chen, L., Cai, C., Li, H., Yen, C.-J., Kuo, H.-P., Lee, D.-F., Lang, J., Huo, L., Cheng, X., Chen, Y.-J., Li, C.-W., Jeng, L.-B., Hsu, J.-L., Li, L.-Y., Tan, A., Curley, S.A., Ellis, L.M., DuBois, R.N., Hung, M.-C. APOBEC3G promotes liver

- metastasis in orthotopic colorectal cancer mouse model and predicts human hepatic metastasis. *Journal of Clinical Investigation*, 121, 4526-4536, 2011. **IF=11.864**
16. Zhao, H., Lo, Y.-H., Ma, L., Waltz, S.E., Gray, J.K., Hung, M.-C., **Wang, S.-C.*** Targeting tyrosine phosphorylation of PCNA inhibits prostate cancer growth. *Molecular Cancer Therapeutics*, 10, 29-36, 2011. **IF=5.615**
 17. Zhao, H., Lo, Y.-H., Yu, L. and **Wang, S.-C.*** Overcoming resistance to fulvestrant (ICI182,780) by downregulating the c-ABL proto-Oncogene in breast cancer. *Molecular Carcinogenesis*, 50, 383-389, 2011. **IF=3.825**
 18. Zhao, H., Ou-Yang, F., Chen, I.-F., Hou, M.-F., Yuan, S.-S. F., Chang, H.-L., Lee, Y.-C., Plattner, R., Waltz, S., Ho, S.-M., Sims, J., and **Wang, S.-C.*** Enhanced resistance to tamoxifen by the c-ABL proto-oncogene in breast cancer. *Neoplasia*, 12, 214-223, 2010. **IF=5.696**
 19. **Wang, S.-C.** and Hung, M.-C. Nuclear translocation of the epidermal growth factor receptor family membrane tyrosine kinase receptors. *Clinical Cancer Research*, 15, 6484-6489, 2009. **IF=10.107**
 20. **Wang, S.-C.**, Nakajima, Y., Yu, Y.-L., Xia, W., Chen, C.-T., Li, L.-Y., Hawke, D. H., Kobayashi, R., Hung, M.-C. Tyrosine phosphorylation controls PCNA function through protein stability. *Nature Cell Biology*, 8, 1359-1368, 2006. **IF=20.042**
 21. Xia, W.‡, Lien, H.-C.‡, **Wang, S.-C.‡**, Pan, Y., Sahin, A., Kuo, Y.-H., Chang, K.-J., Zhou, X., Wang, H., Yu, Z., Hortobagyi, G., Shi, D.-R., and Hung, M.-C. (‡, equally contributed) Expression of PEA3 and Lack of Correlation between PEA3 and HER-2/neu Expression in Breast Cancer. *Breast Cancer Research and Treatment*, 98, 295-301, 2006. **IF=3.831**
 22. **Wang, S.-C.** and Hung, M.-C. Cytoplasmic/nuclear shuttling and tumor progression. *Annals of the New York Academy of Sciences*, 1059, 1-5, 2005. **IF=4.728**
 23. **Wang, S.-C.** and Hung, M.-C. Finding the bEST routes to cancer. *Cancer Biology & Therapy*, 3(11), e132-e133, 2004. **IF=3.659**
 24. **Wang, S.-C.**, Lien, H.-C., Xia, W., Chen, I.-F., Lo, H.-W., Wang, Z., Ali-Seyed, M., Bartholomeusz, G., Ou-Yang, F., Giri, D.K., Hung, M.-C. Binding at and transactivation of the COX-2 promoter by nuclear tyrosine kinase receptor ErbB-2. *Cancer Cell*, 6, 251-261, 2004. **IF=26.602**
 25. **Wang, S.-C.**, Shao, R., Pao, A.Y., Zhang, S., Hung, M.-C., and Su, L.-K. Inhibition of cancer cell growth by BRCA2. *Cancer Research*, 62, 1311-1314, 2002. **IF=9.727**
 26. **Wang, S.-C.** and Hung, M.-C. HER2 over-expression and cancer targeting. *Seminars in Oncology*, 28(5) (Suppl. 16), 115-124, 2001. **IF=4.213**
 27. **Wang, S.-C.**, Zhang, L., Hortobagyi, G.N. and Hung, M.-C. Targeting HER-2: Recent developments and future directions for breast cancer patients. *Seminars in Oncology*, 28(6) (Suppl. 18), 21-29, 2001. **IF=4.213**
 28. **Wang, S.-C.**, Makino, K., Su, L.-K., Pao, A.Y., Kim, J.S., Hung, M.-C. Ultraviolet irradiation induces BRCA2 protein depletion through a p53-independent and protein synthesis-dependent pathway. *Cancer Research*, 61, 2838-2842, 2001. **IF=9.727**
 29. Tsai, E.-M.‡, **Wang, S.-C.‡**, Hung, M.-C. (‡, equally contributed) Akt activation by estrogen in estrogen receptor-negative breast cancer cells. *Cancer Research*, 61, 8390-8392, 2001. **IF=9.727**
 30. **Wang, S.-C.**, Makino, K., Xia, W., Kim, J.S., Im, S.-A., Peng, H., Mok, S.C., Singletary, S.E., Hung, M.-C. DOC-2/hDab-2 inhibits ILK activity and induces anoikis in breast cancer cells through an Akt-independent pathway. *Oncogene*, 20, 6960-6964, 2001. **IF=7.971**
 31. Xing, X.‡, **Wang, S.-C.‡**, Xia, W., Zou, Y., Shao, R., Kwong, K.-Y., Yu, Z., Zhang, S., Miller, S., Huang, L., Hung, M.-C. (‡, equally contributed) The Ets protein PEA3 suppresses HER-2/neu overexpression and inhibits tumorigenesis. *Nature Medicine*, 6, 189-195, 2000. **IF=36.130**

Selected Patents

1. Taiwan Patent and US Provisional to be filed
The application of miR and its pharmaceutical composition as cancer immunotherapy
Inventor: Shao-Chun Wang