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References

- Abouzeid, H. A., Kassem, L., Liu, X., & Abuelhana, A. (2025). Paclitaxel resistance in breast cancer: Current challenges and recent advanced therapeutic strategies. *Cancer Treatment and Research Communications*, 43, 100918.

 https://doi.org/https://doi.org/10.1016/j.ctarc.2025.100918
- Ahmed, U., Abubakar, M., Khan, S. S., & Rehman, B. (2024). Long Non-coding RNA and Progression of Breast Cancer. *Oncology Treatment Discovery*, *2*, 38-64. https://doi.org/10.26689/otd.v2i3.7352
- Al Hinai, M., Malgundkar, S. H., Gupta, I., Lakhtakia, R., Al Kalbani, M., Burney, I., Al Moundhri, M., Okamoto, A., & Tamimi, Y. (2023). Epigenetic status of FBXW7 gene and its role in Ovarian cancer pathogenesis. *Asian Pac J Cancer Prev*, 24(5), 1583-1590. https://doi.org/10.31557/apjcp.2023.24.5.1583

- Alves-Vale, C., Capela, A. M., Tavares-Marcos, C., Domingues-Silva, B., Pereira, B., Santos, F., Gomes, C. P., Espadas, G., Vitorino, R., Sabidó, E., Borralho, P., Nóbrega-Pereira, S., & Bernardes de Jesus, B. (2023). Expression of NORAD correlates with breast cancer aggressiveness and protects breast cancer cells from chemotherapy. *Molecular Therapy Nucleic Acids*, *33*, 910-924. https://doi.org/10.1016/j.omtn.2023.08.019
- Azad, P., Zhou, D., Tu, H. C., Villafuerte, F. C., Traver, D., Rana, T. M., & Haddad, G. G. (2023).

 Long noncoding RNA HIKER regulates erythropoiesis in Monge's disease via CSNK2B. *J Clin Invest*, 133(11). https://doi.org/10.1172/jci165831
- Bo, H., Zhang, W., Zhong, X., Chen, J., Liu, Y., Cheong, K.-L., Fan, P., & Tang, S. (2021).
 LINC00467, Driven by Copy Number Amplification and DNA Demethylation, Is
 Associated with Oxidative Lipid Metabolism and Immune Infiltration in Breast Cancer.
 Oxidative Medicine and Cellular Longevity, 2021(1), 4586319.
 https://doi.org/https://doi.org/10.1155/2021/4586319
- Cao, X., Zhang, G., Li, T., Zhou, C., Bai, L., Zhao, J., & Tursun, T. (2020). LINC00657 knockdown suppresses hepatocellular carcinoma progression by sponging miR-424 to regulate PD-L1 expression. *Genes Genomics*, 42(11), 1361-1368. https://doi.org/10.1007/s13258-020-01001-y
- Capela, A. M., Tavares-Marcos, C., Estima-Arede, H. F., Nóbrega-Pereira, S., & Bernardes de Jesus, B. (2024). NORAD-Regulated Signaling Pathways in Breast Cancer Progression.

 *Cancers (Basel), 16(3). https://doi.org/10.3390/cancers16030636
- Chai, D., Yang, C., Liu, Y., Li, H., Lian, B., Bai, Z., & Li, J. (2023). Knockdown of LINC00702 inhibits the growth and induces apoptosis of breast cancer through the Wnt/β-catenin

pathway. *Heliyon*, *9*(10), e20651. https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e20651

- Chen, J., Hu, L., Chen, J., Pan, Q., Ding, H., Xu, G., Zhu, P., Wen, X., Huang, K., & Wang, Y. (2016). Detection and Analysis of Wnt Pathway Related lncRNAs Expression Profile in Lung Adenocarcinoma. *Pathol Oncol Res*, 22(3), 609-615. https://doi.org/10.1007/s12253-016-0046-9
- Chen, J., Sun, J. J., Ma, Y. W., Zhu, M. Q., Hu, J., Lu, Q. J., & Cai, Z. G. (2024). Cancer-associated fibroblasts derived exosomal LINC01833 promotes the occurrence of non-small cell lung cancer through miR-335-5p -VAPA axis. *J Biochem Mol Toxicol*, *38*(9), e23769. https://doi.org/10.1002/jbt.23769
- Chen, P.-Y., Tsai, L.-L., Wang, S.-M., Liao, Y.-W., Yu, C.-C., & Chao, S.-C. (2025). LncRNA LINC00704 drives cancer stemness and malignant properties in oral squamous cell carcinomas by sponging miR-204. *Journal of Dental Sciences*. https://doi.org/https://doi.org/10.1016/j.jds.2025.02.024
- Chen, Q., Shen, H., Zhu, X., Liu, Y., Yang, H., Chen, H., Xiong, S., Chi, H., & Xu, W. (2020). A nuclear lncRNA Linc00839 as a Myc target to promote breast cancer chemoresistance via PI3K/AKT signaling pathway. *Cancer Sci*, 111(9), 3279-3291. https://doi.org/10.1111/cas.14555
- Chen, Q. H., Li, B., Liu, D. G., Zhang, B., Yang, X., & Tu, Y. L. (2020). LncRNA KCNQ1OT1 sponges miR-15a to promote immune evasion and malignant progression of prostate cancer via up-regulating PD-L1. *Cancer Cell Int*, 20, 394.

 https://doi.org/10.1186/s12935-020-01481-8

- Chen, R., An, J., Wang, Y., Yang, L., Lin, Q., & Wang, Y. (2023). LINC01589 serves as a potential tumor-suppressor and immune-related biomarker in endometrial cancer: A review. *Medicine (Baltimore)*, 102(15), e33536.

 https://doi.org/10.1097/md.0000000000033536
- Chen, X., Luo, Q., Xiao, Y., Zhu, J., Zhang, Y., Ding, J., & Li, J. (2022). LINC00467: an oncogenic long noncoding RNA. *Cancer Cell International*, 22(1), 303. https://doi.org/10.1186/s12935-022-02733-5
- Chen, Y., Qiu, F., Huang, L., Liu, W., Li, L., Ji, C., Zeng, X., Qiao, L., Liu, M., & Gong, X. (2020). Long non-coding RNA LINC00312 regulates breast cancer progression through the miR-9/CDH1 axis. *Mol Med Rep*, 21(3), 1296-1303. https://doi.org/10.3892/mmr.2019.10895
- Chi, H., Peng, G., Wang, R., Yang, F., Xie, X., Zhang, J., Xu, K., Gu, T., Yang, X., & Tian, G. (2022). Cuprotosis Programmed-Cell-Death-Related lncRNA Signature Predicts

 Prognosis and Immune Landscape in PAAD Patients. *Cells*, 11(21).

 https://doi.org/10.3390/cells11213436
- Chu, L., Yu, L., Liu, J., Song, S., Yang, H., Han, F., Liu, F., & Hu, Y. (2019). Long intergenic non-coding LINC00657 regulates tumorigenesis of glioblastoma by acting as a molecular sponge of miR-190a-3p. *Aging (Albany NY)*, *II*(5), 1456-1470.

 https://doi.org/10.18632/aging.101845
- Dai, W., Shi, Y., Hu, W., & Xu, C. (2022). Long noncoding RNA FAM225B facilitates proliferation and metastasis of nasopharyngeal carcinoma cells by regulating miR-613/CCND2 axis. *Bosn J Basic Med Sci*, 22(1), 77-86.

 https://doi.org/10.17305/bjbms.2021.5691

- Dong, Z., Yang, L., Lu, J., Guo, Y., Shen, S., Liang, J., & Guo, W. (2022). Downregulation of LINC00886 facilitates epithelial-mesenchymal transition through SIRT7/ELF3/miR-144 pathway in esophageal squamous cell carcinoma. *Clin Exp Metastasis*, *39*(4), 661-677. https://doi.org/10.1007/s10585-022-10171-w
- Du, T., Gao, Q., Zhao, Y., Gao, J., Li, J., Wang, L., Li, P., Wang, Y., Du, L., & Wang, C. (2021).
 Long Non-coding RNA LINC02474 Affects Metastasis and Apoptosis of Colorectal
 Cancer by Inhibiting the Expression of GZMB. Front Oncol, 11, 651796.
 https://doi.org/10.3389/fonc.2021.651796
- Du, Y., Yang, H., Li, Y., Guo, W., Zhang, Y., Shen, H., Xing, L., Li, Y., Wu, W., & Zhang, X. (2021). Long non-coding RNA LINC01137 contributes to oral squamous cell carcinoma development and is negatively regulated by miR-22-3p. *Cell Oncol (Dordr)*, 44(3), 595-609. https://doi.org/10.1007/s13402-021-00586-0
- Durmus, K. Z., & Ekiz, A. (2024). Investigation of the effects of long-noncoding RNA NRAV on interferon response in melanoma. *Immuno-Oncology and Technology*, 24. https://doi.org/10.1016/j.iotech.2024.100981
- Fan, C., Wang, Q., Kuipers, T. B., Cats, D., Iyengar, P. V., Hagenaars, S. C., Mesker, W. E., Devilee, P., Tollenaar, R., Mei, H., & Ten Dijke, P. (2023). LncRNA LITATS1 suppresses TGF-β-induced EMT and cancer cell plasticity by potentiating TβRI degradation. *Embo j*, 42(10), e112806. https://doi.org/10.15252/embj.2022112806
- Feng, H., Xu, D., Jiang, C., Chen, Y., Wang, J., Ren, Z., Li, X., Zhang, X. D., & Cang, S. (2024). LINC01559 promotes lung adenocarcinoma metastasis by disrupting the ubiquitination of vimentin. *Biomarker Research*, 12(1), 19. https://doi.org/10.1186/s40364-024-00571-3

- Feng, Y., Zhang, T., Zhang, Z., Liang, Y., Wang, H., Chen, Y., Yu, X., Song, X., Mao, Q., Xia,
 W., Chen, B., Xu, L., Dong, G., & Jiang, F. (2023). The super-enhancer-driven lncRNA
 LINC00880 acts as a scaffold between CDK1 and PRDX1 to sustain the malignance of
 lung adenocarcinoma. *Cell Death & Disease*, *14*(8), 551. https://doi.org/10.1038/s41419-023-06047-w
- Ge, H., Yan, Y., Wu, D., Huang, Y., & Tian, F. (2018). Potential role of LINC00996 in colorectal cancer: a study based on data mining and bioinformatics. *Onco Targets Ther*, *11*, 4845-4855. https://doi.org/10.2147/ott.S173225
- Geng, S., Tu, S., Bai, Z., & Geng, Y. (2022). Exosomal IncRNA LINC01356 Derived From Brain Metastatic Nonsmall-Cell Lung Cancer Cells Remodels the Blood-Brain Barrier. Front Oncol, 12, 825899. https://doi.org/10.3389/fonc.2022.825899
- Ghafouri-Fard, S., Khoshbakht, T., Hussen, B. M., Taheri, M., & Mokhtari, M. (2022). A review on the role of LINC01133 in cancers. *Cancer Cell International*, 22(1), 270. https://doi.org/10.1186/s12935-022-02690-z
- Ghafouri-Fard, S., Safarzadeh, A., Hussen, B. M., Taheri, M., & Eghbali, A. (2023). Expression of LINC00174 in different cancers: Review of the literature and bioinformatics analyses.

 *Pathology Research and Practice, 248, 154617.

 https://doi.org/https://doi.org/10.1016/j.prp.2023.154617
- Gong, X., Du, X., Xu, Y., & Zheng, W. (2018). LINC00037 Inhibits Proliferation of Renal Cell Carcinoma Cells in an Epidermal Growth Factor Receptor-Dependent Way. *Cell Physiol Biochem*, 45(2), 523-536. https://doi.org/10.1159/000487030
- Guan, H., Zhu, T., Wu, S., Liu, S., Liu, B., Wu, J., Cai, J., Zhu, X., Zhang, X., Zeng, M., Li, J., Song, E., & Li, M. (2019). Long noncoding RNA LINC00673-v4 promotes

- aggressiveness of lung adenocarcinoma via activating WNT/β-catenin signaling. Proceedings of the National Academy of Sciences, 116(28), 14019-14028. https://doi.org/doi:10.1073/pnas.1900997116
- Guo, L., Fang, L., & Liu, Y. (2019). SP1-regulated LINC01638 promotes proliferation and inhibits apoptosis in non-small cell lung cancer. Eur Rev Med Pharmacol Sci, 23(20), 8913-8920. https://doi.org/10.26355/eurrev_201910_19287
- Guo, Z., Zhou, C., Zhong, X., Shi, J., Wu, Z., Tang, K., Wang, Z., & Song, Y. (2019). The long noncoding RNA CTA-941F9.9 is frequently downregulated and may serve as a biomarker for carcinogenesis in colorectal cancer. *J Clin Lab Anal*, 33(9), e22986.
 https://doi.org/10.1002/jcla.22986
- He, J., Xu, J., Chang, Z., Yan, J., Zhang, L., & Qin, Y. (2023). NALCN is a potential biomarker and therapeutic target in human cancers. *Front Genet*, *14*, 1164707. https://doi.org/10.3389/fgene.2023.1164707
- Hongwei, H., Zhaochen, X., & Hongwei, Z. (2021). Effect of LINC00672 on sensitivity of breast cancer to tamoxifen and its related mechanisms. *Chinese Journal of Endocrine Surgery*, 15, 463-466. https://doi.org/10.3760/cma.j.cn.115807-20210706-00210
- Hu, Y., Hu, Y., Lu, X., Luo, H., & Chen, Z. (2024). LINC00839 in Human Disorders: Insights into its Regulatory Roles and Clinical Impact, with a Special Focus on Cancer. *J Cancer*, 15(8), 2179-2192. https://doi.org/10.7150/jca.93820
- Iyer, M. K., Niknafs, Y. S., Malik, R., Singhal, U., Sahu, A., Hosono, Y., Barrette, T. R., Prensner, J. R., Evans, J. R., Zhao, S., Poliakov, A., Cao, X., Dhanasekaran, S. M., Wu, Y.-M., Robinson, D. R., Beer, D. G., Feng, F. Y., Iyer, H. K., & Chinnaiyan, A. M. (2015). The

- landscape of long noncoding RNAs in the human transcriptome. *Nature Genetics*, 47(3), 199-208. https://doi.org/10.1038/ng.3192
- Jiang, D., Wang, C., & He, J. (2020). Long non-coding RNA DGCR5 incudes tumorigenesis of triple-negative breast cancer by affecting Wnt/β-catenin signaling pathway. *J buon*, 25(2), 702-708.
- Jiang, M., Wang, Y. R., Xu, N., Zhou, L., & An, Q. (2019). Long noncoding RNA MEG3 play an important role in osteosarcoma development through sponging microRNAs. *J Cell Biochem*, 120(4), 5151-5159. https://doi.org/10.1002/jcb.27791
- Jiang, M., Xiao, Y., Liu, D., Luo, N., Gao, Q., & Guan, Y. (2018). Overexpression of long noncoding RNA LINC01296 indicates an unfavorable prognosis and promotes tumorigenesis in breast cancer. *Gene*, 675, 217-224.
 https://doi.org/10.1016/j.gene.2018.07.004
- Jiang, M. C., Ni, J. J., Cui, W. Y., Wang, B. Y., & Zhuo, W. (2019). Emerging roles of lncRNA in cancer and therapeutic opportunities. *Am J Cancer Res*, 9(7), 1354-1366.
- Jiang, X., Guan, J., Xu, Y., Ren, H., Jiang, J., Wudu, M., Wang, Q., Su, H., Zhang, Y., Zhang, B., Zou, Z., Hu, Y., Sun, X., & Qiu, X. (2021). Silencing of CASC8 inhibits non-small cell lung cancer cells function and promotes sensitivity to osimertinib via FOXM1 [Research Paper]. *Journal of Cancer*, 12(2), 387-396. https://doi.org/10.7150/jca.47863
- Jiang, Y.-Z., Ma, D., Suo, C., Shi, J., Xue, M., Hu, X., Xiao, Y., Yu, K.-D., Liu, Y.-R., Yu, Y., Zheng, Y., Li, X., Zhang, C., Hu, P., Zhang, J., Hua, Q., Zhang, J., Hou, W., Ren, L., . . . Shao, Z.-M. (2019). Genomic and Transcriptomic Landscape of Triple-Negative Breast Cancers: Subtypes and Treatment Strategies. *Cancer Cell*, *35*(3), 428-440.e425. https://doi.org/https://doi.org/10.1016/j.ccell.2019.02.001

- Jiang, Y. Z., Ma, D., Suo, C., Shi, J., Xue, M., Hu, X., Xiao, Y., Yu, K. D., Liu, Y. R., Yu, Y.,
 Zheng, Y., Li, X., Zhang, C., Hu, P., Zhang, J., Hua, Q., Zhang, J., Hou, W., Ren, L., . . .
 Shao, Z. M. (2019). Genomic and Transcriptomic Landscape of Triple-Negative Breast
 Cancers: Subtypes and Treatment Strategies. *Cancer Cell*, 35(3), 428-440.e425.
 https://doi.org/10.1016/j.ccell.2019.02.001
- Jin, Y., Tao, H., Liu, Y., Liu, S., & Tang, X. (2025). LINC00704 boosts the immunologic escape of colorectal cancer cells by upregulating TLR4 by binding with miR- 203a- 3p.

 European Journal of Medical Research, 30(1), 263. https://doi.org/10.1186/s40001-025-02514-6
- Karimi Taheri, M., Ghanbari, S., Gholipour, A., Givi, T., & Sadeghizadeh, M. (2023).
 LINC01116 affects patient survival differently and is dissimilarly expressed in ER+ and ER- breast cancer samples. *Cancer Rep (Hoboken)*, 6(8), e1848.
 https://doi.org/10.1002/cnr2.1848
- Kirchhof, L., Fouani, Y., Knau, A., Aslan, G. S., Heumüller, A. W., Wittig, I., Müller-McNicoll, M., Dimmeler, S., & Jaé, N. (2022). The G3BP1-UPF1-Associated Long Non-Coding RNA CALA Regulates RNA Turnover in the Cytoplasm. *Noncoding RNA*, 8(4). https://doi.org/10.3390/ncrna8040049
- Kołat, D., Kałuzińska-Kołat, Ż., Kośla, K., Orzechowska, M., Płuciennik, E., & Bednarek, A. K. (2023). LINC01137/miR-186-5p/WWOX: a novel axis identified from WWOX-related RNA interactome in bladder cancer. *Front Genet*, 14, 1214968.
 https://doi.org/10.3389/fgene.2023.1214968

- Kong, X., Lei, L., & Ma, Z. (2025). LINC00704 facilitates cell proliferation, migration, and invasion via miR-323a-3p/SLC44A1 axis in epithelial ovarian cancer. *Discover Oncology*, 16(1), 640. https://doi.org/10.1007/s12672-025-01866-z
- Lan, M., Qin, S., Wei, J., Wu, L., Lu, Z., & Huang, W. (2025). The SLC26A4-AS1/NTRK2 axis in breast cancer: insights into the ceRNA network and implications for prognosis and immune microenvironment. *Discover Oncology*, 16(1), 329.
 https://doi.org/10.1007/s12672-025-02080-7
- Lei, Y., Wang, Y. H., Wang, X. F., & Bai, J. (2021). LINC00657 promotes the development of colon cancer by activating PI3K/AKT pathway. *Eur Rev Med Pharmacol Sci*, 25(6), 2460. https://doi.org/10.26355/eurrev_202103_25398
- Li, D., Lu, J., Li, H., Qi, S., & Yu, L. (2019). Identification of a long noncoding RNA signature to predict outcomes of glioblastoma. *Mol Med Rep*, 19(6), 5406-5416.

 https://doi.org/10.3892/mmr.2019.10184
- Li, G., Shi, H., Wang, X., Wang, B., Qu, Q., Geng, H., & Sun, H. (2019). Identification of diagnostic long non-coding RNA biomarkers in patients with hepatocellular carcinoma. *Molecular Medicine Reports*, 20. https://doi.org/10.3892/mmr.2019.10307
- Li, H., Liu, J., Lai, Y., Huang, S., Zheng, L., & Fan, N. (2021). LINC01559 promotes colorectal cancer via sponging miR-1343-3p to modulate PARP1/PTEN/AKT pathway. *Pathology Research and Practice*, *224*, 153521.

 https://doi.org/https://doi.org/10.1016/j.prp.2021.153521
- Li, H., Liu, Q., Hu, Y., Yin, C., Zhang, Y., & Gao, P. (2024). Linc00707 regulates autophagy and promotes the progression of triple negative breast cancer by activation of

- PI3K/AKT/mTOR pathway. *Cell Death Discovery*, *10*(1), 138. https://doi.org/10.1038/s41420-024-01906-7
- Li, J., Wang, K., Yang, C., Zhu, K., Jiang, C., Wang, M., Zhou, Z., Tang, N., Wang, Q., Wang, S., Shu, P., Yuan, H., Xiong, Z., Li, J., Liang, T., Rao, J., Wang, X., & Jiang, X. (2023).
 Tumor-Associated Macrophage-Derived Exosomal LINC01232 Induces the Immune
 Escape in Glioma by Decreasing Surface MHC-I Expression. *Adv Sci (Weinh)*, 10(17), e2207067. https://doi.org/10.1002/advs.202207067
- Li, J., Zhang, Q., Ge, P., Zeng, C., Lin, F., Wang, W., & Zhao, J. (2020). FAM225B Is a Prognostic lncRNA for Patients with Recurrent Glioblastoma. *Dis Markers*, 2020, 8888085. https://doi.org/10.1155/2020/8888085
- Li, L., Ai, R., Yuan, X., Dong, S., Zhao, D., Sun, X., Miao, T., Guan, W., Guo, P., Yu, S., & Nan, Y. (2023). LINC00886 Facilitates Hepatocellular Carcinoma Tumorigenesis by Sequestering microRNA-409-3p and microRNA-214-5p. *J Hepatocell Carcinoma*, 10, 863-881. https://doi.org/10.2147/jhc.S410891
- Li, Q., Lei, C., Lu, C., Wang, J., Gao, M., & Gao, W. (2019). LINC01232 exerts oncogenic activities in pancreatic adenocarcinoma via regulation of TM9SF2. *Cell Death & Disease*, 10(10), 698. https://doi.org/10.1038/s41419-019-1896-3
- Li, S., Chen, S., Wang, B., Zhang, L., Su, Y., & Zhang, X. (2020). A Robust 6-IncRNA

 Prognostic Signature for Predicting the Prognosis of Patients With Colorectal Cancer

 Metastasis. *Frontiers in Medicine*, 7. https://doi.org/10.3389/fmed.2020.00056
- Li, W., Li, H., Zhang, L., Hu, M., Li, F., Deng, J., An, M., Wu, S., Ma, R., Lu, J., & Zhou, Y. (2017). Long non-coding RNA LINC00672 contributes to p53 protein-mediated gene

- suppression and promotes endometrial cancer chemosensitivity. *J Biol Chem*, 292(14), 5801-5813. https://doi.org/10.1074/jbc.M116.758508
- Li, Y., Li, H., Wang, W., Yu, X., & Xu, Q. (2020). LINC00346 regulates glycolysis by modulation of glucose transporter 1 in breast cancer cells. *Mol Cell Probes*, *54*, 101667. https://doi.org/10.1016/j.mcp.2020.101667
- Li, Z.-B., Chu, H.-T., Jia, M., & Li, L. (2020). Long noncoding RNA LINC01139 promotes the progression of hepatocellular carcinoma by upregulating MYBL2 via competitively binding to miR-30 family. *Biochemical and Biophysical Research Communications*, 525(3), 581-588. https://doi.org/https://doi.org/10.1016/j.bbrc.2020.02.116
- Lian, Y., Yan, C., Lian, Y., Yang, R., Chen, Q., Ma, D., Lian, W., Liu, J., Luo, C., Ren, J., & Xu,
 H. (2020). Long intergenic non-protein-coding RNA 01446 facilitates the proliferation
 and metastasis of gastric cancer cells through interacting with the histone lysine-specific
 demethylase LSD1. *Cell Death & Disease*, 11(7), 522. https://doi.org/10.1038/s41419-020-2729-0
- Liang, J., Jin, W., & Xu, H. (2022). An efficient five-lncRNA signature for lung adenocarcinoma prognosis, with AL606489.1 showing sexual dimorphism. *Front Genet*, *13*, 1052092. https://doi.org/10.3389/fgene.2022.1052092
- Liang, K.-Y., Chun-Yu Ho, D., Yang, H.-P., Hsieh, P.-L., Fang, C.-Y., Tsai, L.-L., Chao, S.-C., Liu, C.-M., & Yu, C.-C. (2023). LINC01296 promotes cancer stemness traits in oral carcinomas by sponging miR-143. *Journal of Dental Sciences*, *18*(2), 814-821. https://doi.org/https://doi.org/10.1016/j.jds.2023.01.008
- Lin, A., Li, C., Xing, Z., Hu, Q., Liang, K., Han, L., Wang, C., Hawke, D. H., Wang, S., Zhang, Y., Wei, Y., Ma, G., Park, P. K., Zhou, J., Zhou, Y., Hu, Z., Zhou, Y., Marks, J. R., Liang,

- H., . . . Yang, L. (2016). The LINK-A lncRNA activates normoxic HIF1α signalling in triple-negative breast cancer. *Nat Cell Biol*, *18*(2), 213-224. https://doi.org/10.1038/ncb3295
- Lin, L., Wu, X.-H., Zhu, J.-M., Chen, S.-H., Chen, Y.-H., Lin, F., Xue, X.-Y., Wei, Y., Xu, N., Zheng, Q.-S., & Sun, X.-L. (2023). A Novel Tumor Mutation Burden Related lncRNA Signature Identified Prognosis and Tumor Immune Microenvironment Features in Clear Cell Renal Cell Carcinoma. *Combinatorial Chemistry & High Throughput Screening*, 26(8), 1503-1518. https://doi.org/https://doi.org/10.2174/1386207325666220926123923
- Lin, X., Luo, L., Zou, Y., & Chen, J. (2022). Cancer stemness-associated LINC02475 serves as a novel biomarker for diagnosis and prognosis prediction of hepatocellular carcinoma [Original Research]. Frontiers in Genetics, Volume 13 2022.
 https://doi.org/10.3389/fgene.2022.991936
- Lin, Y., & Jiang, J. (2020). Long non-coding RNA LINC00704 promotes cell proliferation, migration, and invasion in papillary thyroid carcinoma via miR-204-5p/HMGB1 axis.

 **Open Life Sci, 15(1), 561-571. https://doi.org/10.1515/biol-2020-0057
- Liu, C., Li, H., Li, X., Zhao, X., & Zhang, X. (2021). LncRNA MANCR positively affects the malignant progression of lung adenocarcinoma. *BMC Pulmonary Medicine*, 21(1), 272. https://doi.org/10.1186/s12890-021-01635-y
- Liu, D., Gong, H., Tao, Z., Chen, S., Kong, Y., & Xiao, B. (2021). LINC01515 promotes nasopharyngeal carcinoma progression by serving as a sponge for miR-325 to up-regulate CDCA5. *J Mol Histol*, 52(3), 577-587. https://doi.org/10.1007/s10735-021-09969-x
- Liu, H., Yu, L., Majerciak, V., Meyer, T., Yi, M., Johnson, P. F., Cam, M., Lowy, D. R., & Zheng,Z.-M. (2024). The long noncoding RNA lnc-FANCI-2 intrinsically restricts RAS

- signaling and phosphorylation of Akt and Erk in HPV16-infected cervical cancer. In: eLife Sciences Publications, Ltd.
- Liu, J., Li, W., Lu, R., Xu, J., Jiang, C., Duan, J., Zhang, L., Wang, G., & Chen, J. (2024).

 Investigation of the feasibility of NRAV as a biomarker for hepatocellular carcinoma.

 Oncol Res, 32(4), 717-726. https://doi.org/10.32604/or.2023.043575
- Liu, J., Li, Z., Yu, G., Wang, T., Qu, G., & Wang, Y. (2021). LINC01232 Promotes Gastric

 Cancer Proliferation through Interacting with EZH2 to Inhibit the Transcription of KLF2. *Journal of Microbiology and Biotechnology*, 31(10), 1358-1365.

 https://doi.org/10.4014/jmb.2106.06041
- Liu, P., Tang, H., Wu, J., Qiu, X., Kong, Y., Zhang, L., Xie, X., & Xiao, X. (2019). Linc01638
 Promotes Tumorigenesis in HER2+ Breast Cancer. Curr Cancer Drug Targets, 19(1), 74-80. https://doi.org/10.2174/1568009618666180709163718
- Liu, Q., & and Lei, C. (2021). LINC01232 serves as a novel biomarker and promotes tumour progression by sponging miR-204-5p and upregulating RAB22A in clear cell renal cell carcinoma. *Annals of Medicine*, *53*(1), 2153-2164.

 https://doi.org/10.1080/07853890.2021.2001563
- Liu, Y.-T., Liu, G.-Q., & Huang, J.-M. (2020). FAM225A promotes sorafenib resistance in hepatocarcinoma cells through modulating miR-130a-5p—CCNG1 interaction network. *Bioscience Reports*, 40(12). https://doi.org/10.1042/bsr20202054
- Liu, Y., Wu, J., Chen, L., Zou, J., Yang, Q., Tian, H., Zheng, D., Ji, Z., Cai, J., Li, Z., & Chen, Y. (2024). ncRNAs-mediated overexpression of TET3 predicts unfavorable prognosis and correlates with immunotherapy efficacy in breast cancer. *Heliyon*, *10*(3), e24855. https://doi.org/10.1016/j.heliyon.2024.e24855

- Liu, Y., Zeng, M., Li, Z., Lin, C., Bao, J., Ding, W., Wang, S., Fan, Q., Sun, Q., Luo, H., Huang, J., Chen, S., & Tang, H. (2024). Linc01588 deletion inhibits the malignant biological characteristics of hydroquinone-induced leukemic cells via miR-9-5p/SIRT1.
 Ecotoxicology and Environmental Safety, 276, 116295.
 https://doi.org/https://doi.org/10.1016/j.ecoenv.2024.116295
- Lu, H., Ye, J., Zhang, L., Li, M., Lu, S., Yang, D., & Hu, W. (2019). Downregulation of LINC01638 lncRNA inhibits migration and invasion of pancreatic ductal adenocarcinoma cells by reducing TGF-β signaling. *Mol Med Rep*, 20(5), 4533-4539. https://doi.org/10.3892/mmr.2019.10699
- Lu, J., Xiao, Z., Xu, M., & Li, L. (2022). New Insights into LINC00346 and its Role in Disease [Review]. Frontiers in Cell and Developmental Biology, Volume 9 2021. https://doi.org/10.3389/fcell.2021.819785
- Lu, J., Yang, Y., Liu, X., Chen, X., Song, W., & Liu, Z. (2023). FTO-mediated LINC01134 stabilization to promote chemoresistance through miR-140-3p/WNT5A/WNT pathway in PDAC. *Cell Death & Disease*, *14*(11), 713. https://doi.org/10.1038/s41419-023-06244-7
- Lu, Q., Guo, Q., Xin, M., Lim, C., Gamero, A. M., Gerhard, G. S., & Yang, L. (2021). LncRNA

 TP53TG1 Promotes the Growth and Migration of Hepatocellular Carcinoma Cells via

 Activation of ERK Signaling. *Noncoding RNA*, 7(3).

 https://doi.org/10.3390/ncrna7030052
- Luo, L., Tang, H., Ling, L., Li, N., Jia, X., Zhang, Z., Wang, X., Shi, L., Yin, J., Qiu, N., Liu, H., Song, Y., Luo, K., Li, H., He, Z., Zheng, G., & Xie, X. (2018). LINC01638 lncRNA activates MTDH-Twist1 signaling by preventing SPOP-mediated c-Myc degradation in

- triple-negative breast cancer. *Oncogene*, *37*(47), 6166-6179. https://doi.org/10.1038/s41388-018-0396-8
- Luo, W., Wang, J., Xu, W., Ma, C., Wan, F., Huang, Y., Yao, M., Zhang, H., Qu, Y., Ye, D., & Zhu, Y. (2021).
 LncRNA RP11-89 facilitates tumorigenesis and ferroptosis resistance through PROM2-activated iron export by sponging miR-129-5p in bladder cancer. *Cell Death Dis*, 12(11), 1043. https://doi.org/10.1038/s41419-021-04296-1
- Lv, P., & Xue, Y. (2021). ETS like-1 protein ELK1-induced lncRNA LINC01638 accelerates the progression of papillary thyroid cancer by regulating Axin2 through Wnt/β-catenin signaling pathway. *Bioengineered*, *12*(1), 3873-3885.

 https://doi.org/10.1080/21655979.2021.1935404
- Ma, B., Luo, Y., Xu, W., Han, L., Liu, W., Liao, T., Yang, Y., & Wang, Y. (2023). LINC00886
 Negatively Regulates Malignancy in Anaplastic Thyroid Cancer. *Endocrinology*, 164(4).
 https://doi.org/10.1210/endocr/bqac204
- Ma, C., Wang, L., Zhang, R., Li, T., Li, P., Ding, Y., Wu, D., & Wang, Y. (2024). LINC00601 promotes the progression of glioma via the p-STAT3 signaling pathway.

 https://doi.org/10.21203/rs.3.rs-4952967/v1
- Ma, X., Wang, G., Fan, H., Li, Z., Chen, W., Xiao, J., Ni, P., Liu, K., Shen, K., Wang, Y., Xu, Z., & Yang, L. (2022). Long noncoding RNA FAM225A promotes the malignant progression of gastric cancer through the miR-326/PADI2 axis. *Cell Death Discovery*, 8(1), 20. https://doi.org/10.1038/s41420-021-00809-1
- Maharati, A., & Moghbeli, M. (2023). Long non-coding RNAs as the critical regulators of PI3K/AKT, TGF-β, and MAPK signaling pathways during breast tumor progression.

- *Journal of Translational Medicine*, *21*(1), 556. https://doi.org/10.1186/s12967-023-04434-7
- Mercer, T. R., Dinger, M. E., & Mattick, J. S. (2009). Long non-coding RNAs: insights into functions. *Nature Reviews Genetics*, 10(3), 155-159. https://doi.org/10.1038/nrg2521
- Nakamura, K., Reid, B. M., Sellers, T. A., & Karreth, F. A. (2020). Abstract B34: LINC00886, a risk locus-associated long noncoding RNA, promotes ovarian cancer progression.

 Clinical Cancer Research, 26(13_Supplement), B34-B34. https://doi.org/10.1158/1557-3265.0vca19-b34
- Nicknam, A., Khojasteh Pour, S., Hashemnejad, M. A., Hussen, B. M., Safarzadeh, A., Eslami, S., Taheri, M., Ghafouri-Fard, S., & Jamali, E. (2023). Expression analysis of Rho GTPase-related lncRNAs in breast cancer. *Pathol Res Pract*, 244, 154429. https://doi.org/10.1016/j.prp.2023.154429
- Pickard, M. R., & Williams, G. T. (2015). Molecular and Cellular Mechanisms of Action of Tumour Suppressor GAS5 LncRNA. *Genes (Basel)*, 6(3), 484-499.

 https://doi.org/10.3390/genes6030484
- Piipponen, M., Nissinen, L., Riihilä, P., Farshchian, M., Kallajoki, M., Peltonen, J., Peltonen, S., & Kähäri, V. M. (2020). p53-Regulated Long Noncoding RNA PRECSIT Promotes

 Progression of Cutaneous Squamous Cell Carcinoma via STAT3 Signaling. *Am J Pathol*, 190(2), 503-517. https://doi.org/10.1016/j.ajpath.2019.10.019
- Qi, F., Du, X., Zhao, Z., Zhang, D., Huang, M., Bai, Y., Yang, B., Qin, W., & Xia, J. (2021).

 Tumor Mutation Burden-Associated LINC00638/miR-4732-3p/ULBP1 Axis Promotes

 Immune Escape via PD-L1 in Hepatocellular Carcinoma [Original Research]. Frontiers

 in Oncology, Volume 11 2021. https://doi.org/10.3389/fonc.2021.729340

- Qiao, K., Ning, S., Wan, L., Wu, H., Wang, Q., Zhang, X., Xu, S., & Pang, D. (2019).

 LINC00673 is activated by YY1 and promotes the proliferation of breast cancer cells via the miR-515-5p/MARK4/Hippo signaling pathway. *Journal of Experimental & Clinical Cancer Research*, 38(1), 418. https://doi.org/10.1186/s13046-019-1421-7
- Qin, X., Zhou, M., Lv, H., Mao, X., Li, X., Guo, H., Li, L., & Xing, H. (2021). Long noncoding RNA LINC00657 inhibits cervical cancer development by sponging miR-20a-5p and targeting RUNX3. *Cancer Letters*, 498, 130-141. https://doi.org/https://doi.org/10.1016/j.canlet.2020.10.044
- Rahrmann, E. P., Shorthouse, D., Jassim, A., Hu, L. P., Ortiz, M., Mahler-Araujo, B., Vogel, P.,
 Paez-Ribes, M., Fatemi, A., Hannon, G. J., Iyer, R., Blundon, J. A., Lourenço, F. C., Kay,
 J., Nazarian, R. M., Hall, B. A., Zakharenko, S. S., Winton, D. J., Zhu, L., & Gilbertson,
 R. J. (2022). The NALCN channel regulates metastasis and nonmalignant cell
 dissemination. *Nature Genetics*, 54(12), 1827-1838. https://doi.org/10.1038/s41588-022-01182-0
- Ren, K., Xu, R., Huang, J., Zhao, J., & Shi, W. (2017). Knockdown of long non-coding RNA KCNQ1OT1 depressed chemoresistance to paclitaxel in lung adenocarcinoma. *Cancer Chemother Pharmacol*, 80(2), 243-250. https://doi.org/10.1007/s00280-017-3356-z
- Saeidi, F., Tanha, K., Davoodabadi Farahani, M., Sohrabi, E., Moradi, Y., & Khani, P. (2020).

 The Effect of LINC01296 Expression in Patients with Cancer: A Systematic Review and Meta-Analysis. *Asian Pac J Cancer Prev*, 21(8), 2189-2195.

 https://doi.org/10.31557/apjcp.2020.21.8.2189
- Salamini-Montemurri, M., Lamas-Maceiras, M., Lorenzo-Catoira, L., Vizoso-Vázquez, Á., Barreiro-Alonso, A., Rodríguez-Belmonte, E., Quindós-Varela, M., & Cerdán, M. E.

- (2023). Identification of lncRNAs Deregulated in Epithelial Ovarian Cancer Based on a Gene Expression Profiling Meta-Analysis. Int J Mol Sci, 24(13). https://doi.org/10.3390/ijms241310798
- Seitz, A. K., Christensen, L. L., Christensen, E., Faarkrog, K., Ostenfeld, M. S., Hedegaard, J., Nordentoft, I., Nielsen, M. M., Palmfeldt, J., Thomson, M., Jensen, M. T. S., Nawroth, R., Maurer, T., Ørntoft, T. F., Jensen, J. B., Damgaard, C. K., & Dyrskjøt, L. (2017). Profiling of long non-coding RNAs identifies LINC00958 and LINC01296 as candidate oncogenes in bladder cancer. Scientific Reports, 7(1), 395. https://doi.org/10.1038/s41598-017-00327-0
- Shan, Q., Fan, Q., Weiping, Y., & and Chen, N. (2020). Effect of LINC00657 on Apoptosis of Breast Cancer Cells by Regulating miR-590-3p. Cancer Management and Research, 12(null), 4561-4571. https://doi.org/10.2147/CMAR.S249576
- Shen, Z., Li, X., Hu, Z., Yang, Y., Yang, Z., Li, S., Zhou, Y., Ma, J., Li, H., Liu, X., Cai, J., Pu, L., Wang, X., & Huang, Y. (2022). Linc00996 is a favorable prognostic factor in LUAD: Results from bioinformatics analysis and experimental validation [Original Research]. Frontiers in Genetics, Volume 13 - 2022. https://doi.org/10.3389/fgene.2022.932973
- Shi, K., Wang, X.-Y., Huang, L.-D., Guo, Q., Yuan, W., Lv, Y., & Li, D. (2024). Biological functions and molecular mechanisms of LINC01116 in cancer. Heliyon, 10(21), e38490. https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e38490
- Shu, X., Long, J., Cai, Q., Kweon, S. S., Choi, J. Y., Kubo, M., Park, S. K., Bolla, M. K., Dennis, J., Wang, Q., Yang, Y., Shi, J., Guo, X., Li, B., Tao, R., Aronson, K. J., Chan, K. Y. K., Chan, T. L., Gao, Y. T., . . . Zheng, W. (2020). Identification of novel breast cancer

- susceptibility loci in meta-analyses conducted among Asian and European descendants.

 Nat Commun, 11(1), 1217. https://doi.org/10.1038/s41467-020-15046-w
- Statello, L., Guo, C.-J., Chen, L.-L., & Huarte, M. (2021). Gene regulation by long non-coding RNAs and its biological functions. *Nature Reviews Molecular Cell Biology*, 22(2), 96-118. https://doi.org/10.1038/s41580-020-00315-9
- Sui, Y. X., Zhao, D. L., Yu, Y., & Wang, L. C. (2021). The Role, Function, and Mechanism of Long Intergenic Noncoding RNA1184 (linc01184) in Colorectal Cancer. *Dis Markers*, 2021, 8897906. https://doi.org/10.1155/2021/8897906
- Taghehchian, N., Farshchian, M., Mahmoudian, R. A., Asoodeh, A., & Abbaszadegan, M. R. (2022). The expression of long non-coding RNA LINC01389, LINC00365, RP11-138J23.1, and RP11-354K4.2 in gastric cancer and their impacts on EMT. *Molecular and Cellular Probes*, 66, 101869. https://doi.org/https://doi.org/10.1016/j.mcp.2022.101869
- Taheri, M., Shirvani-Farsani, Z., Harsij, A., Fathi, M., Khalilian, S., Ghafouri-Fard, S., & Baniahmad, A. (2024). A review on the role of KCNQ1OT1 lncRNA in human disorders. Pathol Res Pract, 255, 155188. https://doi.org/10.1016/j.prp.2024.155188
- Tang, N., Chen, Y., Su, Y., Zhang, S., & Huang, T. (2024). The role of disulfidptosis-associated LncRNA-LINC01137 in Osteosarcoma Biology and its regulatory effects on macrophage polarization. *Functional & Integrative Genomics*, 24(6), 219.
 https://doi.org/10.1007/s10142-024-01504-x
- Tarrad, N. A. F., Hassan, S., Shaker, O. G., & AbdelKawy, M. (2023). "Salivary LINC00657 and miRNA-106a as diagnostic biomarkers for oral squamous cell carcinoma, an observational diagnostic study". *BMC Oral Health*, 23(1), 994.
 https://doi.org/10.1186/s12903-023-03726-0

- Tian, Y., Xia, S., Ma, M., & Zuo, Y. (2019). LINC00096 Promotes the Proliferation and Invasion by Sponging miR-383-5p and Regulating RBM3 Expression in Triple-Negative Breast Cancer. *Onco Targets Ther*, *12*, 10569-10578. https://doi.org/10.2147/ott.S229659
- Tracy, K. M., Tye, C. E., Ghule, P. N., Malaby, H. L. H., Stumpff, J., Stein, J. L., Stein, G. S., & Lian, J. B. (2018). Mitotically-Associated lncRNA (MANCR) Affects Genomic Stability and Cell Division in Aggressive Breast Cancer. *Mol Cancer Res*, *16*(4), 587-598. https://doi.org/10.1158/1541-7786.Mcr-17-0548
- Wang, B., Zhang, Y., Zhang, H., Lin, F., Tan, Q., Qin, Q., Bao, W., Liu, Y., Xie, J., & Zeng, Q. (2020). Long intergenic non-protein coding RNA 324 prevents breast cancer progression by modulating miR-10b-5p. *Aging (Albany NY)*, 12(8), 6680-6699.
 https://doi.org/10.18632/aging.103021
- Wang, H., Yu, S., Peng, H., Shu, Y., Zhang, W., Zhu, Q., Wu, Y., Xu, Y., Yan, J., & Xiang, H.
 (2020). Long noncoding RNA Linc00337 functions as an E2F1 co-activator and promotes
 cell proliferation in pancreatic ductal adenocarcinoma. *Journal of Experimental & Clinical Cancer Research*, 39(1), 216. https://doi.org/10.1186/s13046-020-01725-5
- Wang, H. Q., Qian, C. H., Guo, Z. Y., Li, P. M., & Qiu, Z. J. (2022). Long noncoding RNA negative regulator of antiviral response contributes to pancreatic ductal adenocarcinoma progression via targeting miR-299-3p. *World J Gastroenterol*, 28(35), 5141-5153. https://doi.org/10.3748/wjg.v28.i35.5141
- Wang, J., Ren, H., Xu, C., Yu, B., Cai, Y., Wang, J., & Ni, X. (2024). Identification of m6A/m5C-related lncRNA signature for prediction of prognosis and immunotherapy efficacy in esophageal squamous cell carcinoma. *Scientific Reports*, *14*(1), 8238. https://doi.org/10.1038/s41598-024-58743-y

- Wang, J., Wang, Z., Lin, W., Han, Q., Yan, H., Yao, W., Dong, R., Jia, D., Dong, K., & Li, K. (2022). LINC01296 promotes neuroblastoma tumorigenesis via the NCL-SOX11 regulatory complex. *Molecular Therapy Oncolytics*, 24, 834-848. https://doi.org/https://doi.org/10.1016/j.omto.2022.02.007
- Wang, L., Bo, X., Yi, X., Xiao, X., Zheng, Q., Ma, L., & Li, B. (2020). Exosome-transferred LINC01559 promotes the progression of gastric cancer via PI3K/AKT signaling pathway. *Cell Death & Disease*, 11(9), 723. https://doi.org/10.1038/s41419-020-02810-5
- Wang, L., Ye, T. Y., Wu, H., Chen, S. Y., Weng, J. R., & Xi, X. W. (2019). LINC00702 accelerates the progression of ovarian cancer through interacting with EZH2 to inhibit the transcription of KLF2. Eur Rev Med Pharmacol Sci, 23(3 Suppl), 201-208.
 https://doi.org/10.26355/eurrev-201908-18648
- Wang, T., Cao, L., Dong, X., Wu, F., De, W., Huang, L., & Wan, Q. (2020). LINC01116
 promotes tumor proliferation and neutrophil recruitment via DDX5-mediated regulation
 of IL-1β in glioma cell. *Cell Death & Disease*, 11(5), 302.
 https://doi.org/10.1038/s41419-020-2506-0
- Wang, Y., Tan, Q. Y., Shen, Y., Liu, C. Y., Huang, T., Huai, D., & Dai, J. (2022). LINC00704 contributes to the proliferation and accelerates the cell cycle of nasopharyngeal carcinoma cells via regulating ETS1/CDK6 axis. *Kaohsiung J Med Sci*, 38(4), 312-320. https://doi.org/10.1002/kjm2.12491
- Wang, Y., Yang, Y., Wang, Y., Li, X., Xiao, Y., & Wang, W. (2020). High Cancer Susceptibility

 Candidate 8 Expression Is Associated With Poor Prognosis of Pancreatic

 Adenocarcinoma: Validated Analysis Based on Four Cancer Databases [Original

- Research]. Frontiers in Cell and Developmental Biology, Volume 8 2020. https://doi.org/10.3389/fcell.2020.00392
- Wang, Y., Zhang, W., Liu, W., Huang, L., Wang, Y., Li, D., Wang, G., Zhao, Z., Chi, X., Xue, Y., Song, Y., Liu, X., & Zhan, Q. (2021). Long Noncoding RNA VESTAR Regulates
 Lymphangiogenesis and Lymph Node Metastasis of Esophageal Squamous Cell
 Carcinoma by Enhancing VEGFC mRNA Stability. *Cancer Res*, 81(12), 3187-3199.
 https://doi.org/10.1158/0008-5472.Can-20-1713
- Wang, Y. C., Hu, B. H., Zhang, W. W., Li, M. M., Zhao, X., & Sui, M. H. (2020). Linc00601 upregulation promotes hepatocellular carcinoma development by activating MAPK signaling pathway. *Eur Rev Med Pharmacol Sci*, *24*(11), 6039-6045. https://doi.org/10.26355/eurrev-202006-21498
- Warren, J., Banerjee, B., Stein, J., Stein, G., & Lian, J. (2024). The long noncoding RNA MANCR to promote and stabilize triple negative breast cancer. *Journal of Clinical Oncology*, 42(16_suppl), e13150-e13150.

 https://doi.org/10.1200/JCO.2024.42.16_suppl.e13150
- Wen, Y., Zhan, S., Wang, S., Yang, L., Yang, S., & Zheng, S. (2025). LINC00657 exhibits oncogenic properties in prostate cancer and may serve as a prognostic biomarker in cancer. *BMC Cancer*, 25(1), 314. https://doi.org/10.1186/s12885-025-13746-4
- Wu, H., Yu, D. H., Wu, M. H., & Huang, T. (2019). Long non-coding RNA LOC541471: A novel prognostic biomarker for head and neck squamous cell carcinoma. *Oncol Lett*, *17*(2), 2457-2464. https://doi.org/10.3892/ol.2018.9831
- Wu, J., Cheng, G., Zhang, C., Zheng, Y., Xu, H., Yang, H., & Hua, L. (2017). Long noncoding RNA LINC01296 is associated with poor prognosis in prostate cancer and promotes

- cancer-cell proliferation and metastasis. *Onco Targets Ther*, *10*, 1843-1852. https://doi.org/10.2147/ott.S129928
- Wu, Q., Zhang, H., Yang, D., Min, Q., Wang, Y., Zhang, W., & Zhan, Q. (2022). The m6A-induced lncRNA CASC8 promotes proliferation and chemoresistance via upregulation of hnRNPL in esophageal squamous cell carcinoma [Research Paper]. *International Journal of Biological Sciences*, 18(13), 4824-4836. https://doi.org/10.7150/ijbs.71234
- Wu, Y., Wang, D., Zhao, J., Guo, J., Gao, Z., Xu, Q., & Hu, X. (2025). NRAV promoted the malignant progression of gastric cancer. *Gene*, 937, 149134.
 https://doi.org/10.1016/j.gene.2024.149134
- Wu, Y., Wang, J., Zhao, J., Su, Y., Li, X., Chen, Z., Wu, X., Huang, S., He, X., & Liang, L.
 (2024). LTR retrotransposon-derived LncRNA LINC01446 promotes hepatocellular
 carcinoma progression and angiogenesis by regulating the SRPK2/SRSF1/VEGF axis.
 Cancer Letters, 598, 217088. https://doi.org/https://doi.org/10.1016/j.canlet.2024.217088
- Xia, Q., Shen, J., Wang, Q., Ke, Y., Yan, Q., Li, H., Zhang, D., & Duan, S. (2022). LINC00324 in cancer: Regulatory and therapeutic implications. *Front Oncol*, *12*, 1039366. https://doi.org/10.3389/fonc.2022.1039366
- Xing, Z., Zhang, M., Liu, J., Liu, G., Feng, K., & Wang, X. (2021). LINC00337 induces tumor development and chemoresistance to paclitaxel of breast cancer by recruiting M2 tumor-associated macrophages. *Mol Immunol*, 138, 1-9.
 https://doi.org/10.1016/j.molimm.2021.07.009
- Xu, H., Han, D., Wang, K., Zhang, T., & Gao, G. C. (2021). LINC00174 triggers the malignant development of breast cancer by negatively regulating miR-1827 level. *Eur Rev Med Pharmacol Sci*, 25(21), 6447-6453. https://doi.org/10.26355/eurrev_202111_27087

- Xu, J., Zhang, Z., Shen, D., Zhang, T., Zhang, J., & De, W. (2021). Long noncoding RNA LINC01296 plays an oncogenic role in colorectal cancer by suppressing p15 expression. *Journal of International Medical Research*, 49(5), 03000605211004414. https://doi.org/10.1177/03000605211004414
- Xu, Y., & Liu, R. (2022). Analysis of the role of m6A and lncRNAs in prognosis and immunotherapy of hepatocellular carcinoma. *Heliyon*, 8(9), e10612.
 https://doi.org/10.1016/j.heliyon.2022.e10612
- Xu, Y., Yu, X., Zhang, M., Zheng, Q., Sun, Z., He, Y., & Guo, W. (2021). Promising Advances in LINC01116 Related to Cancer [Review]. Frontiers in Cell and Developmental Biology, Volume 9 2021. https://doi.org/10.3389/fcell.2021.736927
- Yan, Z., Ruoyu, L., Xing, L., Hua, L., Jun, Z., Yaqin, P., Lu, W., Aili, T., Yuzi, Z., Lin, M., & Huiping, T. (2020). Long non-coding RNA GAS5 regulates the growth and metastasis of human cervical cancer cells via induction of apoptosis and cell cycle arrest. *Arch Biochem Biophys*, 684, 108320. https://doi.org/10.1016/j.abb.2020.108320
- Yang, X., Yang, Y., Qian, X., Xu, X., & Lv, P. (2022). Long non-coding RNA LINC01559 serves as a competing endogenous RNA accelerating triple-negative breast cancer progression.

 *Biomed J, 45(3), 512-521. https://doi.org/10.1016/j.bj.2021.05.002
- Yao, C., Zeng, L., Liu, Q., Qiu, X., & Chen, C. (2023). LncRNA FAM225B Regulates PDIA4-Mediated Ovarian Cancer Cell Invasion and Migration via Modulating Transcription Factor DDX17. *Breast J*, 2023, 3970444. https://doi.org/10.1155/2023/3970444
- Yao, L., Wu, J., Wang, X., & Wang, N. (2024). LINC01134 Directly Binds and Regulates

 SLC1A5 Stability to Promotes Colorectal Cancer Progression [Research Paper]. *Journal*of Cancer, 15(18), 6135-6147. https://doi.org/10.7150/jca.100147

- Yao, Q., Li, Z., & Chen, D. (2022). Review of LINC00707: A Novel LncRNA and Promising

 Biomarker for Human Diseases [Review]. Frontiers in Cell and Developmental Biology,

 Volume 10 2022. https://doi.org/10.3389/fcell.2022.813963
- Yao, Y., Yang, F., Chen, A., Hua, Q., & Gao, W. (2022). Costimulatory molecule-related lncRNA model as a potential prognostic biomarker in non-small cell lung cancer. *Cancer Medicine*, 12. https://doi.org/10.1002/cam4.5391
- Yin, J., Che, G., Wang, W., Chen, S., & Liu, J. (2022). Investigating the Prognostic Significance of Pyroptosis-Related Genes in Gastric Cancer and Their Impact on Cells' Biological Functions. *Front Oncol*, *12*, 861284. https://doi.org/10.3389/fonc.2022.861284
- Yu, D., Wang, X. Y., & Jin, Z. L. (2020). Linc00702 inhibits cell growth and metastasis through regulating PTEN in colorectal cancer. *Eur Rev Med Pharmacol Sci*, 24(7), 3624-3632. https://doi.org/10.26355/eurrev-202004-20824
- Yu, J., Liu, Y., Gong, Z., Zhang, S., Guo, C., Li, X., Tang, Y., Yang, L., He, Y., Wei, F., Wang, Y., Liao, Q., Zhang, W., Li, X., Li, Y., Li, G., Xiong, W., & Zeng, Z. (2017). Overexpression long non-coding RNA LINC00673 is associated with poor prognosis and promotes invasion and metastasis in tongue squamous cell carcinoma. *Oncotarget*, 8(10), 16621-16632. https://doi.org/10.18632/oncotarget.14200
- Yu, W., Li, D., Ding, X., Sun, Y., Liu, Y., Cong, J., Yang, J., Sun, J., Ning, X., Wang, H., & Xu, T. (2019). LINC00702 suppresses proliferation and invasion in non-small cell lung cancer through regulating miR-510/PTEN axis. *Aging (Albany NY)*, 11(5), 1471-1485. https://doi.org/10.18632/aging.101846

- Yu, Y., Wang, J., Guo, Q., & Luo, H. (2024). LINC01134: a pivotal oncogene with promising predictive maker and therapeutic target in hepatocellular carcinoma [Review]. *Frontiers in Oncology, Volume 14 2024*. https://doi.org/10.3389/fonc.2024.1265762
- Yuan, L. Y., Qin, X., Li, L., Zhou, J., Zhou, M., Li, X., Xu, Y., Cheng, L., & Xing, H. (2019).
 Overexpression of LINC00037 represses cervical cancer progression by activating mTOR signaling pathway. *J Cell Physiol*, 234(8), 13353-13360.
 https://doi.org/10.1002/jcp.28012
- Zhang, C., Luo, Y., Cao, J., Wang, X., Miao, Z., & Shao, G. (2020). Exosomal lncRNA FAM225A accelerates esophageal squamous cell carcinoma progression and angiogenesis via sponging miR-206 to upregulate NETO2 and FOXP1 expression. *Cancer Med*, 9(22), 8600-8611. https://doi.org/10.1002/cam4.3463
- Zhang, D., Hua, M., & Zhang, N. (2023). LINC01232 promotes lung squamous cell carcinoma progression through modulating miR-181a-5p/SMAD2 axis. *The American Journal of the Medical Sciences*, 365(4), 386-395.

 https://doi.org/https://doi.org/10.1016/j.amjms.2022.12.014
- Zhang, H., Zhao, X., Wang, M., & Ji, W. (2021). Long noncoding RNA LINC01638 contributes to laryngeal squamous cell cancer progression by modulating miR-523-5p/BATF3 axis.

 *Aging (Albany NY), 13(6), 8611-8619. https://doi.org/10.18632/aging.202675
- Zhang, J., Mou, Y., Li, H., Shen, H., Song, J., & Li, Q. (2023). LINC00638 promotes the progression of non-small cell lung cancer by regulating the miR-541-3p/IRS1/PI3K/Akt axis. *Heliyon*, 9(6), e16999. https://doi.org/10.1016/j.heliyon.2023.e16999
- Zhang, L., Li, L., Zhan, Y., Wang, J., Zhu, Z., & Zhang, X. (2021). Identification of Immune-Related IncRNA Signature to Predict Prognosis and Immunotherapeutic Efficiency in

- Bladder Cancer [Original Research]. *Frontiers in Oncology, Volume 10 2020*. https://doi.org/10.3389/fonc.2020.542140
- Zhang, L., Wang, Q., Wang, F., Zhang, X., Zhang, L., Tang, Y., & Wang, S. (2018). LncRNA LINC01446 promotes glioblastoma progression by modulating miR-489-3p/TPT1 axis. *Biochem Biophys Res Commun*, 503(3), 1484-1490.

 https://doi.org/10.1016/j.bbrc.2018.07.067
- Zhang, Q., Shen, J., Wu, Y., Ruan, W., Zhu, F., & Duan, S. (2022). LINC00520: A Potential Diagnostic and Prognostic Biomarker in Cancer [Review]. *Frontiers in Immunology*, *Volume 13 2022*. https://doi.org/10.3389/fimmu.2022.845418
- Zhang, Q., Yan, L., Chen, J., & Liu, L. (2022). LINC01184 is highly expressed and functions as a tumor-promotive factor in hepatocellular carcinoma. *bioRxiv*, 2022.2010.2009.511516. https://doi.org/10.1101/2022.10.09.511516
- Zhang, R., Niu, Z., Pei, H., & Peng, Z. (2020). Long noncoding RNA LINC00657 induced by SP1 contributes to the non-small cell lung cancer progression through targeting miR-26b-5p/COMMD8 axis. *J Cell Physiol*, 235(4), 3340-3349. https://doi.org/10.1002/jcp.29222
- Zhang, S., Lan, X., & Lei, L. (2025). LINC01559: roles, mechanisms, and clinical implications in human cancers. *Human Cell*, *38*(3), 83. https://doi.org/10.1007/s13577-025-01218-7
- Zhang, X., Han, J., Du, L., Li, X., Hao, J., Wang, L., Zheng, G., Duan, W., Xie, Y., Zhao, Y.,
 Zhang, X., Zou, M., & Wang, C. (2020). Unique metastasis-associated lncRNA signature
 optimizes prediction of tumor relapse in lung adenocarcinoma. *Thoracic Cancer*, 11(3),
 728-737. https://doi.org/https://doi.org/10.1111/1759-7714.13325

- Zhang, X., Shi, H., Yao, J., Li, Y., Gao, B., Zhang, Y., Wang, C., Zhou, H., & Zhang, L. (2020). FAM225A facilitates colorectal cancer progression by sponging miR-613 to regulate NOTCH3. *Cancer Med*, *9*(12), 4339-4349. https://doi.org/10.1002/cam4.3053
- Zhao, L. D., Liu, Y., & Xiong, M. (2021). LINC01139 targets miR-1262 to affect the proliferation, invasion and migration of ovarian cancer cells. *Chinese Journal of Cancer Prevention and Treatment*, 28, 994-1000. https://doi.org/10.16073/j.cnki.cjcpt.2021.13.05
- Zhao, P., Cui, X., Zhao, L., Liu, L., & Wang, D. (2020). Overexpression of Growth-Arrest-Specific Transcript 5 Improved Cisplatin Sensitivity in Hepatocellular Carcinoma

 Through Sponging miR-222. *DNA Cell Biol*, 39(4), 724-732.

 https://doi.org/10.1089/dna.2019.5282
- Zheng, G., Chattopadhyay, S., Sundquist, J., Sundquist, K., & Ji, J. (2024). Antihypertensive drug targets and breast cancer risk: a two-sample Mendelian randomization study. *Eur J Epidemiol*, 39(5), 535-548. https://doi.org/10.1007/s10654-024-01103-x
- Zheng, J., Huang, X., Tan, W., Yu, D., Du, Z., Chang, J., Wei, L., Han, Y., Wang, C., Che, X.,
 Zhou, Y., Miao, X., Jiang, G., Yu, X., Yang, X., Cao, G., Zuo, C., Li, Z., Wang, C., . . .
 Lin, D. (2016). Pancreatic cancer risk variant in LINC00673 creates a miR-1231 binding site and interferes with PTPN11 degradation. *Nature Genetics*, 48(7), 747-757.
 https://doi.org/10.1038/ng.3568
- Zheng, Z. Q., Li, Z. X., Zhou, G. Q., Lin, L., Zhang, L. L., Lv, J. W., Huang, X. D., Liu, R. Q.,
 Chen, F., He, X. J., Kou, J., Zhang, J., Wen, X., Li, Y. Q., Ma, J., Liu, N., & Sun, Y.
 (2019). Long Noncoding RNA FAM225A Promotes Nasopharyngeal Carcinoma
 Tumorigenesis and Metastasis by Acting as ceRNA to Sponge miR-590-3p/miR-1275 and

- Upregulate ITGB3. *Cancer Res*, 79(18), 4612-4626. https://doi.org/10.1158/0008-5472.Can-19-0799
- Zhou, L. L., Jiao, Y., Chen, H. M., Kang, L. H., Yang, Q., Li, J., Guan, M., Zhu, G., Liu, F. Q., Wang, S., Bai, X., & Song, Y. Q. (2019). Differentially expressed long noncoding RNAs and regulatory mechanism of LINC02407 in human gastric adenocarcinoma. *World J Gastroenterol*, 25(39), 5973-5990. https://doi.org/10.3748/wjg.v25.i39.5973
- Zhou, W., Liu, T., Saren, G., Liao, L., Fang, W., & Zhao, H. (2019). Comprehensive analysis of differentially expressed long non-coding RNAs in non-small cell lung cancer. *Oncol Lett*, 18(2), 1145-1156. https://doi.org/10.3892/ol.2019.10414
- Zhu, K., Gong, Z., Li, P., Jiang, X., Zeng, Z., Xiong, W., & Yu, J. (2021). A review of linc00673 as a novel lncRNA for tumor regulation [Review]. *International Journal of Medical Sciences*, 18(2), 398-405. https://doi.org/10.7150/ijms.48134
- Zhu, M., Lv, Q., Huang, H., Sun, C., Pang, D., & Wu, J. (2020). Identification of a four-long non-coding RNA signature in predicting breast cancer survival. *Oncol Lett*, 19(1), 221-228. https://doi.org/10.3892/ol.2019.11063
- Zhu, N., Chen, X., Zhao, J., Fang, L., Yao, Y., Zhou, F., Tao, L., & Xu, Q. (2022). Hypoxia-induced LINC00674 facilitates hepatocellular carcinoma progression by activating the NOX1/mTOR signaling pathway [Research Paper]. *Journal of Cancer*, 13(11), 3177-3188. https://doi.org/10.7150/jca.76458
- Zhu, P., Huang, H., Gu, S., Liu, Z., Zhang, X., Wu, K., Lu, T., Li, L., Dong, C., Zhong, C., & Zhou, Y. (2021). Long Noncoding RNA FAM225A Promotes Esophageal Squamous Cell Carcinoma Development and Progression via Sponging MicroRNA-197-5p and Upregulating NONO. *J Cancer*, 12(4), 1073-1084. https://doi.org/10.7150/jca.51292

Zhuang, S., Zhekun, H., Hongkai, F., Zhirong, W., & and Liu, H. (2024). LINC01232 promotes ARNTL2 transcriptional activation and inhibits ferroptosis of CRC cells through p300/H3K27ac. *Epigenomics*, 16(15-16), 1097-1115.

 $\underline{https://doi.org/10.1080/17501911.2024.2387528}$