

Overcoming Disease Recurrence and Treatment Resistance in HER2-Positive Metastatic Tumors – Tweeterioral #1 References

Tweet 3

Oh D-Y, Bang Y-J. HER2-targeted therapies — a role beyond breast cancer. *Nat Rev Clin Oncol*. 2020;17(1):33-48. doi:10.1038/s41571-019-0268-3

Pillai RN, Behera M, Berry LD, et al. HER2 mutations in lung adenocarcinomas: a report from the Lung Cancer Mutation Consortium. *Cancer*. 2017;123(21):4099-4105. doi:10.1002/cncr.30869

Siena S, Sartore-Bianchi A, Marsoni S, et al. Targeting the human epidermal growth factor receptor 2 (HER2) oncogene in colorectal cancer. *Ann Oncol*. 2018;29(5):1108-1119. doi:10.1093/annonc/mdy100

Wang J, Xu B. Targeted therapeutic options and future perspectives for HER2-positive breast cancer. *Signal Transduct Target Ther*. 2019;4(1):34. doi:10.1038/s41392-019-0069-2

Zhao D, Klemptner SJ, Chao J. Progress and challenges in HER2-positive gastroesophageal adenocarcinoma. *J Hematol Oncol*. 2019;12(1):50. doi:10.1186/s13045-019-0737-2

Zhao J, Xia Y. Targeting HER2 alterations in non–small-cell lung cancer: a comprehensive review. *JCO Precision Oncology*. 2020;(4):411-425. doi:10.1200/po.19.00333

Tweet 5

Baselga J, Swain SM. Novel anticancer targets: revisiting ERBB2 and discovering ERBB3. *Nat Rev Cancer*. 2009;9(7):463-75. doi:10.1038/nrc2656

Liu X, Liu S, Lyu H, Riker AI, Zhang Y, Liu B. Development of effective therapeutics targeting HER3 for cancer treatment. *Biol Proced Online*. 2019;21(1):5. doi:10.1186/s12575-019-0093-1

Mishra R, Patel H, Alanazi S, Yuan L, Garrett JT. HER3 signaling and targeted therapy in cancer. *Oncol Rev*. 2018;12(1):355. doi:10.4081/oncol.2018.355

Wang J, Xu B. Targeted therapeutic options and future perspectives for HER2-positive breast cancer. *Signal Transduct Target Ther*. 2019;4(1):34. doi:10.1038/s41392-019-0069-2

Tweet 6

Miglietta F, Griguolo G, Bottosso M, et al. Evolution of HER2-low expression from primary to recurrent breast cancer. *NPJ Breast Cancer*. 2021;7(1):137. doi:10.1038/s41523-021-00343-4

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Breast Cancer (v8.2021). Updated September 13, 2021. Accessed October 15, 2021. https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf

Tweet 8

Banerji U, van Herpen CML, Saura C, et al. Trastuzumab duocarmazine in locally advanced and metastatic solid tumours and HER2-expressing breast cancer: a phase 1 dose-escalation and dose-expansion study. *Lancet Oncol*. 2019;20(8):1124-1135. doi:10.1016/S1470-2045(19)30328-6

Modi S, Park H, Murthy RK, et al. Antitumor activity and safety of trastuzumab deruxtecan in patients with her2-low-expressing advanced breast cancer: results from a phase ib study. *J Clin Oncol*. 2020;38(17):1887-1896. doi:10.1200/JCO.19.02318

Tweet 9

Abrahao-Machado LF, Scapulatempo-Neto C. HER2 testing in gastric cancer: An update. *World J Gastroenterol*. 2016;22(19):4619-25. doi:10.3748/wjg.v22.i19.4619

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Gastric Cancer (v5.2021). Updated October 6, 2021. Accessed October 15, 2021. https://www.nccn.org/professionals/physician_gls/pdf/gastric.pdf

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Esophageal and Esophagogastric Cancers (v4.2021). Updated August 3, 2021. Accessed September 8, 2021. https://www.nccn.org/professionals/physician_gls/pdf/esophageal.pdf

Tweet 10

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Gastric Cancer (v5.2021). Updated October 6, 2021. Accessed October 15, 2021. https://www.nccn.org/professionals/physician_gls/pdf/gastric.pdf

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Non-Small Cell Lung Cancer (v7.2021). Updated October 29, 2021. Accessed November 2, 2021. https://www.nccn.org/professionals/physician_gls/pdf/nscl.pdf

Wolff AC, Hammond MEH, Allison KH, et al. Human epidermal growth factor receptor 2 testing in breast cancer: American Society of Clinical Oncology/College of American Pathologists clinical practice guideline focused update. *Arch Pathol Lab Med*. 2018;142(11):1364-1382. doi:10.5858/arpa.2018-0902-SA

Tweet 11

Lindeman NI, Cagle PT, Aisner DL, et al. Updated molecular testing guideline for the selection of lung cancer patients for treatment with targeted tyrosine kinase inhibitors: guideline from the College of American Pathologists, the International Association for the Study of Lung Cancer, and the Association for Molecular Pathology. *J Thorac Oncol*. 2018;13(3):323-358. doi:10.1016/j.jtho.2017.12.001

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Non-Small Cell Lung Cancer (v7.2021). Updated October 29, 2021. Accessed November 2, 2021. https://www.nccn.org/professionals/physician_gls/pdf/nscl.pdf

Yoshizawa A, Sumiyoshi S, Sonobe M, et al. HER2 status in lung adenocarcinoma: a comparison of immunohistochemistry, fluorescence in situ hybridization (FISH), dual-ISH, and gene mutations. *Lung Cancer*. 2014;85(3):373-8. doi:10.1016/j.lungcan.2014.06.007

Tweet 13

Abrahao-Machado LF, Scapulatempo-Neto C. HER2 testing in gastric cancer: An update. *World J Gastroenterol*. 2016;22(19):4619-25. doi:10.3748/wjg.v22.i19.4619

Hoda RS, Bowman AS, Zehir A, et al. Next-generation assessment of human epidermal growth factor receptor 2 gene (ERBB2) amplification status in invasive breast carcinoma: a focus on Group 4 by use of the 2018 American Society of Clinical Oncology/College of American Pathologists HER2 testing guideline. *Histopathology*. 2021;78(4):498-507. doi:10.1111/his.14241

Lindeman NI, Cagle PT, Aisner DL, et al. Updated molecular testing guideline for the selection of lung cancer patients for treatment with targeted tyrosine kinase inhibitors: guideline from the College of American Pathologists, the International Association for the Study of Lung Cancer, and the Association for Molecular Pathology. *J Thorac Oncol*. 2018;13(3):323-358. doi:10.1016/j.jtho.2017.12.001

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Gastric Cancer (v5.2021). Updated October 6, 2021. Accessed October 15, 2021. https://www.nccn.org/professionals/physician_gls/pdf/gastric.pdf

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Esophageal and Esophagogastric Cancers (v4.2021). Updated August 3, 2021. Accessed September 8, 2021. https://www.nccn.org/professionals/physician_gls/pdf/esophageal.pdf

Tweet 14

Clark AS, Yau C, Wolf DM, et al. Neoadjuvant T-DM1/pertuzumab and paclitaxel/trastuzumab/pertuzumab for HER2(+) breast cancer in the adaptively randomized I-SPY2 trial. *Nat Commun*. 2021;12(1):6428. doi:10.1038/s41467-021-26019-y

Glossary

ADC, antibody-drug conjugate
AKT, protein kinase B
BC, breast cancer
CEP17, centromere enumerator probe for chromosome 17
CISH, chromogenic in situ hybridization
CNV, copy number variation
DDISH, dual-color dual-hapten in situ hybridization
EGFR, epidermal growth factor receptor
FISH, fluorescent in situ hybridization
GC, gastric cancer
GRB2, growth factor receptor-bound protein 2
GSK3, glycogen synthase kinase 3
H&E, hematoxylin and eosin
HER2, human epidermal growth factor receptor 2
HER3, human epidermal growth factor receptor 3
HR, hormone receptor
IHC, immunohistochemistry
ISH, in situ hybridization
MAPK, mitogen-activated protein kinase
MEK, mitogen-activated protein kinase kinase
mTOR, mammalian target of rapamycin
NSCLC, non-small cell lung cancer
NGS, next-generation sequencing
NRG, neuregulin
ORR, objective response rate
pCR, pathologic complete response
PDK1, phosphoinositide-dependent kinase-1
PI3K, phosphoinositide 3-kinase
PIP, phosphatidylinositol
PTEN, phosphate and tensin homolog
RPPA, reverse-phase protein array
SISH, silver in situ hybridization
T-DM1, trastuzumab emtansine
T-DXd, trastuzumab deruxtecan
T-DM1/P, trastuzumab emtansine plus pertuzumab
Tx, treatment
THP, paclitaxel, trastuzumab, and pertuzumab
VEGFA, vascular endothelial growth factor A
w/, with