Correlation of quantitative p95HER2, HER3, and HER2 protein expression with pathologic complete response (pCR) in HER2-positive breast cancer patients treated with neoadjuvant (NEO) trastuzumab containing therapy

JC Villasboas, J Hurley, JM Weidler, A Paque, C Gomez-Fernandez, M Cioffi, J Sperinde, A Chenna, M Haddad, Y Lief, J Winslow, W Huang, C Petropoulos, M Pegram

1. University of Miami Sylvester Comprehensive Cancer Center, Miami, FL
2. Monogram Biosciences / Integrated Oncology, South San Francisco, CA
3. Current affiliation: Stanford University, Stanford, CA

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Introduction

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Acknowledgements

References


Note: The dotted red lines on each plot denote the current clinical cutoffs for each assay: (H2T=13.8; p95=2.8; H3T=3.5)

Significantly higher levels of H2T were observed in pCR vs. non-pCR cases.

Significantly lower levels of HER2 were observed in pCR vs. non-pCR cases.

Non-significant trend in higher H3T levels in pCR vs. non-pCR cases.

This was a blinded, prospectively designed biomarker analysis of a retrospective cohort of patients with stage II-IV breast cancer treated at a tertiary referral center in Miami.

The study was reviewed and approved by the Ethics Committee (Institutional Review Board) at the University of Miami.

Inclusion criteria

- Invasive Breast cancer. HER2-positive (IHC 3+ or IHC 2+ FISH+). Neoadjuvant (pre-treatment) chemotherapy regimen containing trastuzumab.

- Available pre-treatment, HER2-positive tumor biopsy

- Exclusion criteria

- Continued stage IV disease
- Refusal of surgery
- Unresectable tissue specimen
- Unavailable (PCR data

- Treatment: HER2+ positive breast cancer patients were assessed for quantitative p95HER2, p95HER3, and HER2 by HERmark (Monogram Biosciences, South San Francisco, CA) (IHC, FISH/CISH).

- Outcomes: pCR was defined as absence of invasive tumor in the breast at surgery; pN0 was defined as time from start of neoadjuvant therapy to progression or death.