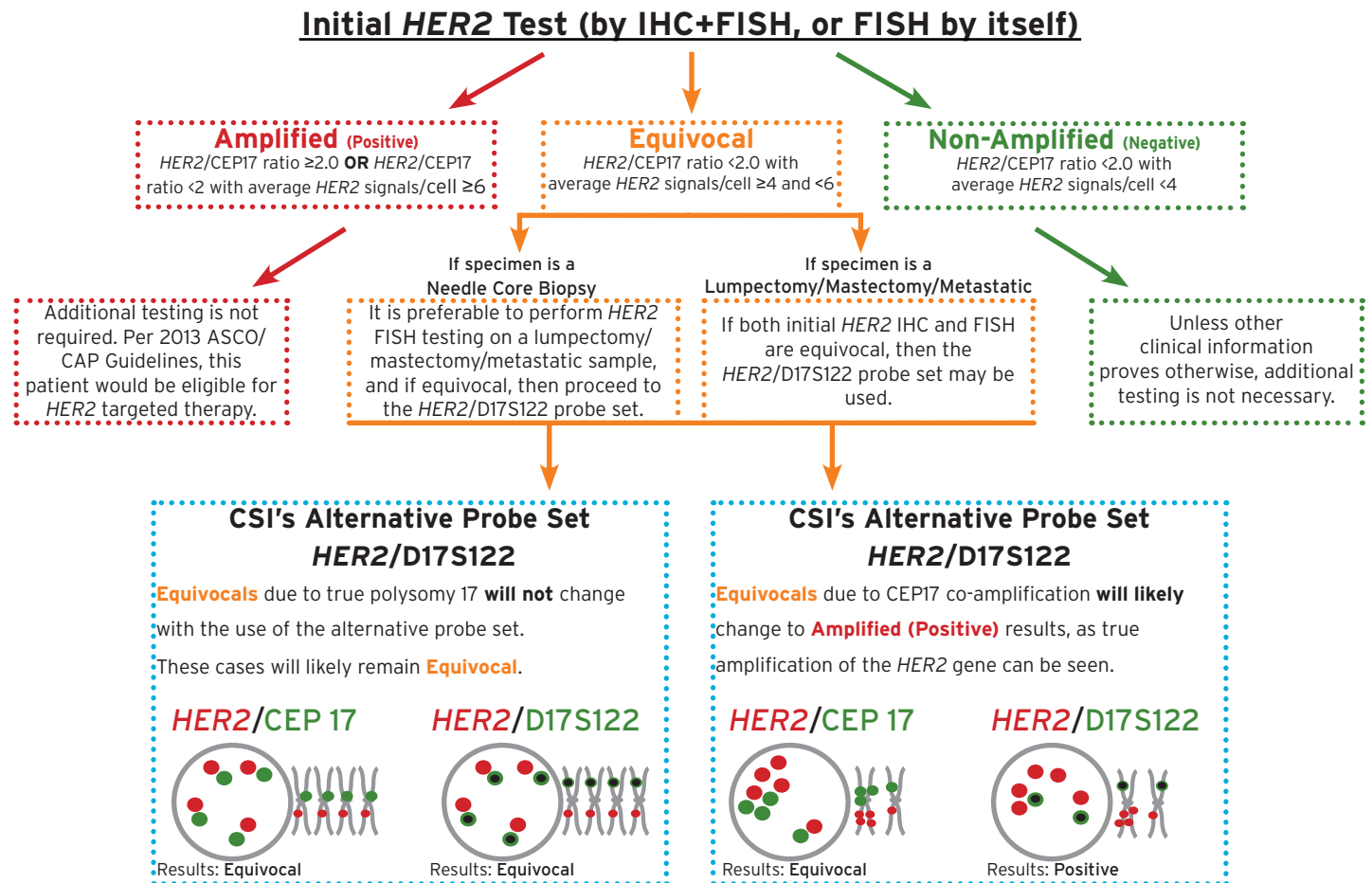


HER2/D17S122 DUAL-PROBE FISH ASSAY FOR EQUIVOCAL HER2 CASES

↑ 16%
increase in the number of cases classified as equivocal based on new 2013 ASCO/CAP guidelines for HER2 interpretation.*†

HER2 gene amplification and/or protein overexpression status assists clinicians to evaluate therapeutic options available for breast cancer patients. However, when HER2 test results are equivocal, additional testing may be used to attempt to appropriately stratify these patients. Equivocal results can potentially be attributed either to CEP17 co-amplification (when HER2 and CEP17 both have signals within the equivocal range) or true polysomy 17 (additional copies of entire chromosome 17). To further investigate equivocal HER2 FISH results, the 2013 ASCO/CAP Guidelines[†] have proposed using an alternative probe to CEP17 that is not expected to co-amplify with HER2.

When HER2 testing produces equivocal results, performing FISH testing with CSI's alternative HER2/D17S122 probe set can provide results that can be used to qualify patients for therapy. The goal of the alternative probe assay is to better stratify patients as positive or negative for receiving HER2 targeted therapy. Proper classification will help to ensure that the patient is being treated with the appropriate therapy.



Commonly asked questions regarding the use of an alternative probe for equivocal *HER2* cases

- ▶ **Are all alternative probe methods the same?** No. CSI Laboratories has chosen to utilize the *HER2/D17S122* as the alternative probe set for equivocal *HER2* cases. *D17S122* is located on the short arm of chromosome 17 (17p12) and is a very stable and conserved gene locus. In contrast, other laboratories have selected one or more alternative probes on chromosome 17 to resolve equivocal *HER2* FISH results.
- ▶ **Why does CSI use the *HER2* probe in the alternative probe set?** We believe it is imperative to include the *HER2* probe in the alternative probe set because the *HER2* signals will serve as a common denominator and also as a quality control check between the initial test with the *HER2/CEP17* probe set and the second test with the *HER2/D17S122* probe set. The number of *HER2* signals/cell should be similar between the first and second test, thus indicating we are truly focusing on the equivocal cells.
- ▶ **Why doesn't CSI's use the *TP53* probe in the alternative probe set?** We intentionally decided not to utilize the *TP53* (17p11.2) probe in our cocktail because in high-grade tumors, this gene is often deleted during tumor progression. The loss of *TP53* coupled with the increased number of *HER2* signals may artificially skew the results toward an amplified *HER2* status and potentially create a false positive ratio.
- ▶ **Can CSI perform the *HER2/D17S122* alternative probe assay even if the initial equivocal *HER2* tests (IHC and/or FISH) were not performed at CSI?** Yes. CSI can perform the alternative probe assay even if we did not report out the initial *HER2/CEP17* results. However, in order to obtain better correlation between the initial test with the *HER2/CEP17* probe set and the *HER2/D17S122* alternative probe set, please submit the outside *HER2* equivocal report as well as an H&E (preferably accompanied by a *HER2* immunostain) that has been circled in the area(s) analyzed by FISH in which the equivocal cells were observed.
- ▶ **Can CSI perform the *HER2/D17S122* alternative probe assay after the initial equivocal FISH *HER2* result on the needle biopsy?** If the initial sample tested is a needle biopsy, it is highly suggested to test the lumpectomy/mastectomy/metastatic sample **before** proceeding with the reflex using the *HER2/D17S122* alternative probe set. It should be noted, however, that although a needle biopsy may certainly be tested using the alternative probe set, it may be more useful to test the subsequent and more representative lumpectomy/mastectomy/metastatic tumor specimen instead.

Specimen Requirements

If initial *HER2* FISH test is performed at CSI ...

- No additional specimen is needed for the *HER2/D17S122* alternative probe assay (the currently submitted tissue material may be used)

If initial *HER2* FISH test is performed elsewhere ...

- Initial *HER2* IHC and FISH equivocal reports
- 3 unstained slides
- H&E and/or *HER2* IHC slide circled in the areas analyzed by FISH in which equivocal cells were observed

What CPT code is billed for CSI's

HER2/D17S122 alternative probe assay?

CSI Laboratories utilizes CPT code 88377 (x1) for the *HER2/D17S122* alternative probe set.

CPT code provided is subject to change and will be determined at the time report is issued. CSI Laboratories encourages clients to consult the CPT Coding Manual published by the American Medical Association to address questions regarding the use of specific codes.

For more information on the *HER2/D17S122* Dual-Probe FISH assay, please contact your local Territory Sales Specialist or CSI Client Service.

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