

An Update on HER2 Testing for Australian Practice

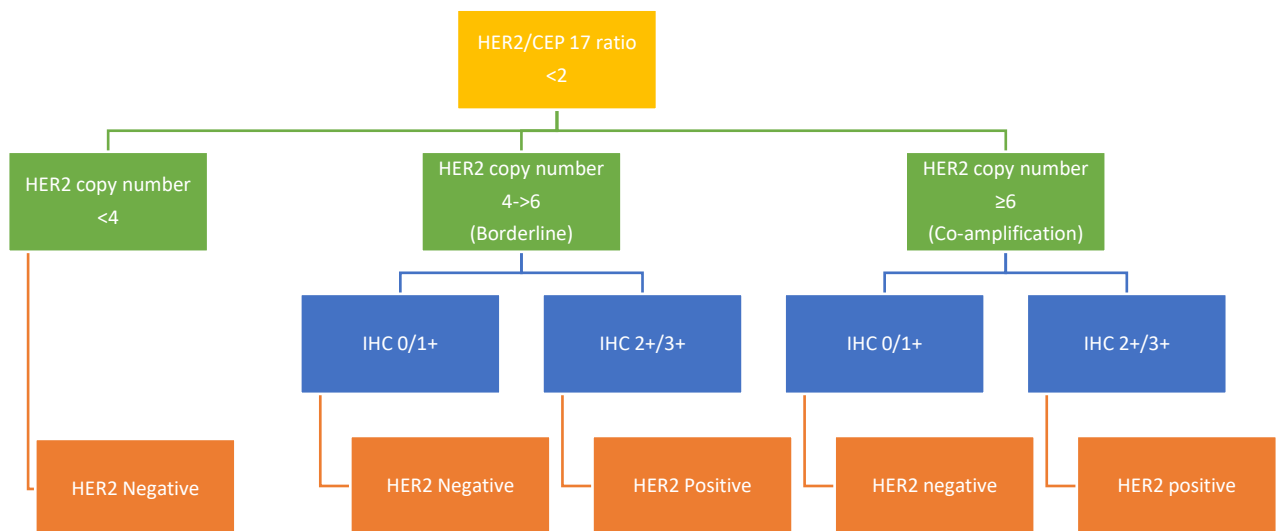
In September 2018 RCPA released an update of HER2 testing guidelines based on 2013 ASCO CAP guidelines and localised for Australian practice. A summary of the major changes are:

1. Primary testing should be done on core biopsies (and re-testing of the surgical excision specimens is rarely required).
2. Firstline testing should using IHC and should be done is the same lab performing the ISH.
3. 0/1+ are negative and do not need ISH testing, if ISH testing is done these should not be re-classified as positive.
4. 2+ and 3+ cases on IHC should be ISH tested.
5. ISH Dual probe preferred, but single probe acceptable

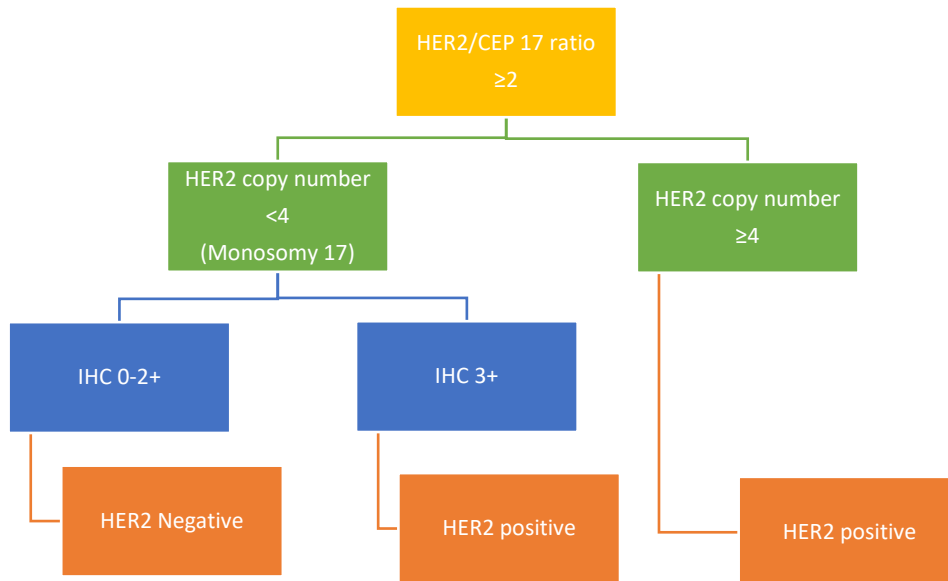
The vast majority of cases will be straight forward, but approximately 5% of cases will demonstrate co-amplification, monosomy and borderline HER2 counts. In these cases a second opinion should be undertaken.

The algorithm below may be used to assist with classification of cases.

HER2/CEP17 ratio less than 2



HER2/CEP17 ratio 2 or more



Finally, HER2 can be heterogeneous and this is best identified using IHC and confirmed with ISH testing. Heterogeneity is defined as an aggregate of cells >10% of the tumour on the slide. These cases are designated as positive.

These revisions of the guidelines are in line with the results of the first generation Trastuzumab trials which used first line IHC testing. However in Australia as the PBS requires amplification by ISH demonstrated for provision of subsidy for approved anti-HER2 therapies, the ASCO CAP guidelines and the algorithms above have been adapted for local use.