VENTANA Companion Algorithm

Image analysis software

See things differently with Companion Algorithm image analysis software
Transform your lab with the diagnostic confidence that comes with clinically validated VENTANA Companion Algorithm image analysis software from Roche. Both local and remote specialists can experience objective, consistent immunohistochemistry (IHC) interpretations that help your lab provide reproducible, validated results for greater diagnostic confidence.

Bring patient safety to the forefront
Help improve patient care with our fully integrated image analysis algorithms, providing rapid diagnostic validation to empower standardized, consistent results — giving patients interpretations that can reduce diagnosis errors. Our sensitive, specific, CE and US IVD-validated portfolio of key breast biomarkers and semi-quantitative image analysis algorithms is your best solution for enhanced diagnostic insight.
The use of image analysis software can help advance the standardization of IHC. The Companion Algorithm image analysis software from Roche aids pathologists in the detection and semi-quantitative measurement of the specified proteins in formalin-fixed, paraffin-embedded neoplastic tissue. Our complete breast panel includes HER2 (4B5), ER (SP1), PR (1E2), Ki-67 (30-9) and p53 (DO-7) image analysis algorithms. When used with their associated VENTANA antibodies, the algorithms are indicated for use as an aid in the assessment of breast cancer patients.

A comprehensive, integrated, single-source solution
Our single-source solution provides an all-encompassing approach to image analysis. With assays, reagents, automated staining platforms and digital pathology tools from one trusted global provider, you can be sure of a well-supported solution that provides reliable, validated results through our growing portfolio of key breast cancer biomarkers. A single source can save time and resources with ensured compatibility, consolidated support and consistent updates. Used together as a complete system, our digital pathology solution optimizes your lab, from staining to reporting, with increased workflow efficiency, enhanced diagnostic confidence and increased medical value.

- Allows consistent and objective interpretations, verified by a pathologist, for each patient.
- Produces a semi-quantitative score.
- Helps improve diagnostic consistency and confidence.

The most advanced, clinically validated pathology solutions
Our growing family of IVD-validated digital pathology products empowers you with the convenience of an integrated image and workflow solution that is fully validated as a complete system for IVD use in the anatomic pathology laboratory. All IHC breast markers in the Roche portfolio are CE and US IVD-validated for both image analysis and digital read applications for the following intended uses:

- Clinical use of the software algorithm to semi-quantify the biomarker.
- Digital read to enable a pathologist to digitally view a slide on a computer monitor, assign a score and then sign out the case with a diagnosis or opinion with or without the assistance of an image analysis algorithm.

*The PATHWAY HER2 (4B5) assay is FDA-approved.*
Companion Algorithm image analysis workflow steps
The companion algorithms are individual processes that identify specific cellular targets. For best performance, carefully follow the instructions listed in the product insert.

PR (1E2), ER (SP1), p53 (DO-7) and Ki-67 (30-9) image analysis software workflow
1. Slides are digitized on a VENTANA scanner to generate an image.
2. The algorithm identifies the epithelial area and the nuclei in the chosen field of view.
3. The algorithm counts the number of unstained and stained nuclei within the chosen area and generates a score of percent positivity.
4. The final slide score is comprised of an aggregate score of all the areas analyzed within the entire image.

HER2 (4B5) image analysis software workflow
1. Slides are digitized on a VENTANA scanner to generate an image.
2. The user selects areas representative of the tumor.
3. The HER2 algorithm identifies the epithelial area and the nuclei in the image.
4. The algorithm identifies the cell membrane and then classifies the cells based on the intensity, thickness and extent of the membrane stain.
5. The HER2 algorithm counts the number of unstained, partially stained and completely stained membranes within the chosen area, and generates a score of 0, 1+, 2+ or 3+.
6. The final slide score is comprised of an aggregate score of all the areas analyzed within the entire image.

Experience the confidence that validated results can provide in your lab, and raise your standard of patient care with Companion Algorithm image analysis software from Roche.