Human Chorionic Gonadotropin (Beta) antibody has been shown to react with a protein that is secreted by normal trophoblasts in normal placenta and in neoplastic trophoblasts of choriocarcinomas and teratomas. It has also been shown to react with lung cancer, urinary bladder, ovarian mixed germ-cell tumors, adenocarcinoma of the prostate, seminomas and pituitary adenomas (2-5).

**Principle of Procedure:**
Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detection of the bound antibodies are evidenced by a colorimetric reaction.

**Source:** Rabbit polyclonal

**Species Reactivity:** Human; others not tested

**Isotype:** N/A

**Protein Concentration:** Lot specific Ig concentration is not available.

**Epitope/Target:** hCG protein

**Cellular Localization:** Cytoplasmic

**Positive Tissue Control:** Placenta

**Known Applications:** Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

**Storage and Stability:** Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2ºC to 8ºC.

**Protocol Recommendations (VALENT Automated Slide Staining Platform):**
- VLTR124 is intended for use with the VALENT. Refer to the User Manual for specific instructions for use. Protocol parameters in the Protocol Manager should be programmed as follows:
  - De-paraffinization: Deparaffinize for 8 minutes with Val DePar.
  - Pretreatment: Perform heat retrieval at 98ºC for 60 minutes using Val AR-Hi pH, 5X (use at 1X).
  - Peroxidase Block: Block for 5 minutes with Val Peroxidase Block.
  - Protein Block: Incubate for 10 minutes with Val Background Block.
  - Primary Antibody: Incubate for 30 minutes.

**Protocol Recommendations (intelliPATH FLX® and manual use):**
- Peroxidase Block: Block for 5 minutes with Peroxidazied 1.
- Pretreatment: Perform heat retrieval using Reveal Decloaker. Refer to the Reveal Decloaker product data sheet for specific instructions.
- Protein Block (Optional): Incubate for 5-10 minutes at RT with Background Punisher.
- Primary Antibody: Incubate for 30 minutes at RT.
- Probe: N/A
- Polymer: Incubate for 30 minutes at RT with a secondary-conjugated polymer.
- Chromogen: Incubate for 5 minutes at RT with Biocare's DAB - OR - Incubate for 5-7 minutes at RT with Warp Red.
- Counterstain: Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha’s Bluing Solution for 1 minute. Rinse with deionized water.

**Technical Note:** This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 2 detection system. Use TBS for washing steps.

**Limitations:**
The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to: fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

**Quality Control:**

**Precautions:**
1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (6)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents.
Precautions Cont’d:
and specimens. If reagents or specimens come in contact with sensitive
areas, wash with copious amounts of water. (7)
3. Microbial contamination of reagents may result in an increase in
nonspecific staining.
4. Incubation times or temperatures other than those specified may give
erroneous results. The user must validate any such change.
5. Do not use reagents after the expiration date printed on the vial.
6. The SDS is available upon request and is located at http://biocare.net.

Troubleshooting:
Follow the antibody specific protocol recommendations according to
data sheet provided. If atypical results occur, contact Biocare’s Technical
Support at 1-800-542-2002.

References:
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2. Sheaff MT, et al. beta hCG as a prognostic marker in adenocarcinoma
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5. Heshmati HM, et al. The immunocytochemical heterogeneity of silent
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Sink Drains to Remove Azide Salts."
7. Clinical and Laboratory Standards Institute (CLSI). Protection of
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