Monoclonal
Anti-human PRL/PTP4A (Pan) Antibody

**Background**
Phosphatase of Regenerating Liver (PRL), also known as PTP4A, dephosphorylates tyrosine residues on proteins. Three PRL variants, PRL-1 (PTP4A1), PRL-2 (PTP4A2), and PRL-3 (PTP4A3) have been cloned and are 75% to 86% homologous. Prenylation at the C-terminal end targets PRL family members to membrane compartments in the cell, especially to early endosomes and the plasma membrane. PRL levels may correlate with cell migration rates and tumor invasiveness, and PRL overexpression is known to cause an increase in the metastatic capability of cancer cell lines.

**Preparation**
This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, *E. coli*-derived recombinant human PRL-3 (rhPRL-3; aa 2 - 173; Accession # NP_116000). The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography.

**Formulation**
Lyophilized from a 0.2 μm filtered solution in phosphate-buffered saline (PBS) with 5% trehalose.

**Reconstitution**
Reconstitute with sterile PBS. If 0.2 mL of PBS is used, the antibody concentration will be 500 μg/mL.

**Storage**
Lyophilized samples are stable for twelve months from date of receipt when stored at -20° C to -70° C. Upon reconstitution, the antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Reconstituted antibody can also be aliquotted and stored frozen at -20° C to -70° C in a manual defrost freezer for six months without detectable loss of activity. Avoid repeated freeze-thaw cycles.

**Specificity**
By antigen-down ELISA, the affinity for rhPRL-2 is equal to that of rhPRL-3. The affinity for rhPRL-1 is 10-fold lower than rhPRL-2 and rhPRL-3. Reactivity with PRL from other species has not been determined.

**Applications**

- **Immunohistochemistry** - This antibody was used at a concentration of 8 - 25 μg/mL with the appropriate secondary reagents to detect PRL in paraffin-embedded colon cancer tissue. For chromogenic detection of labeling, the use of R&D Systems’ Cell and Tissue Staining Kits (CTS Series) is recommended.

- **Direct ELISA** - This antibody can be used at 0.5 - 1.0 μg/mL with the appropriate secondary reagents to detect human PRL-1, PRL-2, and PRL-3. The detection limit is 0.3 ng/mL for all three proteins.

For Western blot analysis of human, mouse, and rat PRL-3, the use of R&D Systems, Catalog # MAB3219, is recommended.

Optimal dilutions should be determined by each laboratory for each application.