Product Information

Anti-Cytokeratin Peptide 18 Antibody, Mouse Monoclonal

Clone CY-90, Purified from hybridoma cell culture

SAB4200855

Product Description

Monoclonal Anti-Cytokeratin Peptide 18 antibody (mouse IgG1 isotype) is derived from the CY-90 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from a mouse immunized with human epidermal carcinoma A431 and human breast cancer MCF-7 cells. The isotype is determined by ELISA using Mouse monoclonal antibody isotyping reagents (ISO-2). The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Cytokeratin Peptide 18 antibody specifically recognizes cytokeratin peptide 18 in human cultured cell lines as well as human tissue extracts. The antibody also shows reactivity with samples from rat[1] and monkey[2] origin. The antibody reacts specifically with a wide variety of simple epithelia (for example, intestine, respiratory and urinary systems, liver and glandular epithelia). It does not react with stratified squamous epithelia (for example, esophagus or epidermis) or with non-epithelial cells. The antibody may be used in various immunochemical techniques including Immunoblotting (~45 kDa)[3], Immunofluorescence[1-2], Immunoprecipitation[4] and Immunohistology.[5]

Intermediate Filaments (IFs) are one of three major cytoskeletal filament assemblies in higher eukaryotes.[6] Keratins (formerly known as "cytokeratins") comprise of types I and II IF genes (given a total of 54 conserved genes) that are highly expressed primarily in epithelial cells hair and skin appendages. Cytokeratins are the largest subgroup of IF in mammals and are the predominant subtype of IFs in all epithelia.[6,7] Cytokeratins form 10-nm filaments comprised of type I and II cytokeratine heteropolymer.[7] Cytokeratins provide the cells with structural support, resistance to chemical stresses and maintenance of a polarized cytoarchitecture.[6] Each epithelial tissue has a specific expression pattern of cytokeratins, which makes them common and excellent pathology markers for tumor identification, classification and epithelial cell differentiation.[6,7]

Cytokeratin 18 is a member of the type I subfamily. Cytokeratin pair 8/18 forms the IF scaffold predominantly in simple epithelia such as the liver and pancreas. They have major role in the mechanical support of the cell, protein biosynthesis, protection from apoptosis, regulation of cell cycle progression, motility and organelle transport.[3]

Cytokeratins over and misexpression are linked to various diseases and more than 60 different disorders (termed as keratinopathies) have been linked to inherited cytokeratin changes. Cytokeratins (such as cytokeratin 18) serve as serum markers for malignant and non-neoplastic disorders and mutation of human cytokeratin 18 has also been associated with liver diseases.[7]

Reagent

- Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.
- Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the safety data sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry

A working concentration of 10-20 µg/mL is recommended using heat-retrieved formalin-fixed, paraffin-embedded human placenta sections.

Note: In order to obtain best results in different techniques and preparations it is recommended to determine optimal working concentration by titration test.

References

1. Nunez-Parra A., et al., Chem Senses., 36, 771-80 (2011).
2. Khan J., et al., J Virol., 85, 9984-97 (2011).
3. Kakade PS., et al., J Biol Chem., 291, 12003-13 (2016).
4. Brabletz T., et al., Cancer Res., 64, 6973-7 (2004).
5. Fuchs U., et al., Am J Pathol., 141, 169-81 (1992).
6. Jacob J., et al., Cold Spring Harb Perspect Biol., 10 (2018).
7. Toivola D., et al., Curr Opin Cell Biol., 32, 73-81 (2015).

Notice

We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by the manufacturing or selling entity, or an affiliate. We assume no responsibility for any errors that may appear in this document.

Technical Assistance

Visit the tech service page at SigmaAldrich.com/techservice.

Terms and Conditions of Sale

Warranty, use restrictions, and other conditions of sale may be found at SigmaAldrich.com/terms.

Contact Information

For the location of the office nearest you, go to SigmaAldrich.com/offices.

SAB4200855pis Rev 11/24