



Desmin (RD301)

CATALOG NUMBER: MUB0400S

CLONE: RD301

SPECIES / ISOTYPE: mouse IgG2b

PRODUCT FORM: culture supernatant of monoclonal antibody

BACKGROUND

Desmin is a 53 kDa intermediate filament protein that exhibits a high degree of tissue specificity, its expression being predominantly confined to all types of muscle cells (cardiac, skeletal and smooth muscle). Regulation of desmin expression is stage and tissue-specific, since it is induced during terminal development of, for example, skeletal muscle cell differentiation. In skeletal and cardiac muscle cells desmin is localized in the Z-disk region and at the intercalated disk. The expression pattern of desmin in smooth muscle is much more heterogeneous.

Coexpression of vimentin and desmin has been observed in tumors derived from muscle tissue, i.e. rhabdomyosarcomas and leiomyosarcomas. Furthermore, during myocard dysfunction dramatic changes in the distribution of desmin have been observed.

SOURCE

RD301 is a mouse monoclonal IgG2b antibody derived by fusion of SP2/0-Ag14 mouse myeloma cells with spleen cells from a mouse immunized with a cytoskeletal desmin extract of chicken gizzard.

PRODUCT

Each vial contains 1 ml of culture supernatant of monoclonal antibody containing 0.09% sodium azide.

SPECIFICITY

RD301 reacts exclusively with desmin, which is expressed in smooth and striated muscle cells and their tumors e.g. rhabdomyosarcoma and leiomyosarcoma.

RD301 is suitable for immunoblotting and immunohistochemistry on frozen tissues with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent. Optimal antibody dilution should be determined by titration.

SPECIES REACTIVITY

Human, mouse, rat, rabbit, hamster, canine, chicken and swine.

STORAGE

Store at 4°C, or in small aliquots at -20°C.

REFERENCES

1. Quax, W., van den Broek, L., Egberts, W. V., Ramaekers, F., and Bloemendal, H. (1985). Characterization of the hamster desmin gene: expression and formation of desmin filaments in nonmuscle cells after gene transfer, *Cell* **43**, 327-38.
2. Verhagen, A. P., Aalders, T. W., Ramaekers, F. C., Debruyne, F. M., and Schalken, J. A. (1988). Differential expression of keratins in the basal and luminal compartments of rat prostatic epithelium during degeneration and regeneration, *Prostate* **13**, 25-38.
3. Pieper, F. R., Schaart, G., Krimpenfort, P. J., Henderik, J. B., Moshage, H. J., van de Kemp, A., Ramaekers, F. C., Berns, A., and Bloemendal, H. (1989). Transgenic expression of the muscle-specific intermediate filament protein desmin in nonmuscle cells, *J Cell Biol* **108**, 1009-24.
4. Schaart, G., Viebahn, C., Langmann, W., and Ramaekers, F. (1989). Desmin and titin expression in early postimplantation mouse embryos, *Development* **107**, 585-96.
5. Raats, J. M., Pieper, F. R., Vree Egberts, W. T., Verrijp, K. N., Ramaekers, F. C., and Bloemendal, H. (1990). Assembly of amino-terminally deleted desmin in vimentin-free cells, *J Cell Biol* **111**, 1971-85.
6. Schaart, G., Pieper, F. R., Kuijpers, H. J., Bloemendal, H., and Ramaekers, F. C. (1991). Baby hamster kidney (BHK-21/C13) cells can express striated muscle type proteins, *Differentiation* **46**, 105-15.
7. Dispersyn, G. D., Geuens, E., Ver Donck, L., Ramaekers, F. C., and Borgers, M. (2001). Adult rabbit cardiomyocytes undergo hibernation-like dedifferentiation when co-cultured with cardiac fibroblasts, *Cardiovasc Res* **51**, 230-40.
8. Council, L., Hameed, O. (2009). Differential expression of immunohistochemical markers in bladder smooth muscle and myofibroblasts, and the potential utility of desmin, smoothelin, and vimentin in staging of bladder carcinoma *Modern Pathology* **22**, 639-50.

© 2009 MUBio Products B.V.

Datasheet version: MUB_0400S_090819

WARNING and CAUTION

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals.

This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water.

This datasheet is as accurate as reasonably achievable, but MUBio Products BV accepts no liability for any inaccuracies or omissions in this information.