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Product Information

Monoclonal Anti-DYNLT3, Clone R1
produced in mouse, purified immunoglobulin

Catalog Number **D2820**

Product Description

Monoclonal Anti-DYNLT3 (mouse IgG2a isotype) is derived from the hybridoma R1 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with rat dynein 3 light chain-myosin basic protein fusion protein (GeneID 363448).[1] The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-DYNLT3 recognizes human and rat DYNLT3. The antibody may be used in various immunochemical techniques including immunoblotting (~12.5 kDa) and immunoprecipitation.[1]

Cytoplasmic dynein motor complex is responsible for minus-end, microtubule-based motile processes.[2] It is thus involved in a wide range of eukaryotic cellular processes including trafficking of membranal vesicles, viruses and other intracellular particles. Each dynein complex consists of two heavy chains that have ATPase and motor activities, and a group of accessory polypeptides including dynein intermediate chains, light intermediate chains and light chains. Several light chain subunits have been identified.[3] Among these, DYNLT3 (previously known as RP3) has been located in both the cytoplasm and the nucleus, in cell- and tissue-specific manners.[4] It was found to bind to and assemble with the transcription factor SATB1. The activity of DYNLT3-SATB1 complex was found to be independent of the dynein motor.[5] DYNLT3 has also been found to bind Bub3, a spindle checkpoint protein. Like Bub3, DYNLT3 is also depleted from the kinetochore during chromosome alignment. It has been suggested that dynein binds directly to a component of the spindle checkpoint complex through DYNLT3 light chain. Thus, this subunit has been suggested to contribute to dynein cargo binding specificity.[6] Interestingly, the Herpes simplex virus capsid protein, VP26, has been shown to bind both DYNLT1 and DYNLT3. Through this interaction with dynein light chains, the binding of the virus capsid to cytoplasmic dynein during cellular infection is facilitated.[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

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material 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 at –20 °C in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, 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

Immunoblotting: a working antibody concentration of 2-4 µg/mL is recommended using rat brain S1 extract.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

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2. Hirokawa, N., *Science,* **279**, 519-526 (1998).
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4. Pfister, K.K., et al., *PLoS. Genet., 2*, e1 (2006).
5. Yeh, T.Y., et al., *J. Cell Sci.,* **118**, 3431-3443 (2005).
6. Lo, K.W.H., et al., *J. Biol. Chem.,* **282**, 11205-11212 (2007).
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