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ProductInformation

MONOCLONAL ANTI-DIHYDROPYRIDINE (DHP) RECEPTOR (α1 SUBUNIT), CLONE 1A
Mouse Ascites Fluid

Product Number **D-218**

Product Description

Monoclonal Anti-Dihydropyridine (DHP) Receptor (α1 Subunit) (IgG1 isotype) is produced in mice. Purified rabbit muscle t-tubule DHP receptors were used as immunogen.

Monoclonal Anti-Dihydropyridine (DHP) Receptor (α1 Subunit) reacts specifically with the α1 subunit of the DHP receptor. The antibody may be used to localize and detect the DHP recptor α1 subunit (approx. 200 kDa) by immunoblotting, immunoprecipitation and immunohistochemistry. Reactivity with the α1 subunit is observed in rat, mouse, guinea pig, rabbit, and weakly with human skeletal muscle. The antibody may be used to inhibit the DHP-sensitive calcium current in BC3H1 mouse muscle cells. By immunohistochemistry, double rows of discrete punctate staining represent pairs of triads on the opposing sides of the Z-lines.

Voltage-sensitive calcium channels mediate the entry of calcium into many types of excitable cells and thus play a key role in neurotransmitter release and excitation-contraction (E-C) coupling. The 1,4-dihydropyridines (DHPs) are synthetic organic compounds which can be used to identify the L-type $Ca2^{+}$ channels that are found in all types of vertebrate muscle, neuronal and neuroendocrine cells. The DHP receptor is part of the L-type calcium channel complex and is thought to be the voltage sensor in E-C coupling.

The purified DHP receptor isolated from triads is composed of at least four subunits. The α1 subunit contains the binding site for the DHPs and shows high sequence homology to the voltage gated Na^{+} channel. The α2 subunit is a large glycoprotein associated with the DHP receptor which was first described in skeletal muscle and is also found in high concentrations in other excitable tissues such as cardiac muscle and brain and in low concentrations in most other tissues studied.

The other two subunits that copurify with the DHP receptor are termed β and γ.

Reagents

Monoclonal Anti-Dihydropyridine (DHP) Receptor (α1 Subunit) is supplied as mouse ascites diluted with phosphate buffered saline and contains 0.05% sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at –20 °C for up to one month. For extended storage, solution may be frozen in working aliquots. Storage in “frost-free” freezers is not recommended. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify by centrifugation before use.

Product Profile

Recommended working dilution is 1:2,000 for immunoblotting and 1:500 for immunohistochemistry. However, optimal working concentration should be determined by serial dilutions.

References

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