

## Monoclonal Antibody to Dihydropyridine Receptor Alpha 1 - Ascites

<b>Alternate names:</b>	DHPR alpha 1
<b>Catalog No.:</b>	SM5114
<b>Quantity:</b>	0.2 ml
<b>Background:</b>	<p>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 calcium 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.</p> <p>The purified DHP receptor isolated from triads is composed of at least four subunits. The alpha-1 subunit contains the binding site for the DHPs and shows high sequence homology to the voltage gated sodium channel. The alpha-2 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 co-purify with the DHP receptor are termed beta and gamma.</p>
<b>Host / Isotype:</b>	Mouse / IgG1
<b>Clone:</b>	1A
<b>Immunogen:</b>	Purified rabbit muscle T-tubule dihydropyridine receptor.
<b>Format:</b>	<b>State:</b> Liquid diluted ascites. <b>Buffer System:</b> PBS containing 0.05% sodium azide as preservative.
<b>Applications:</b>	<p>Immunoprecipitation.</p> <p>Immunohistochemistry on frozen sections: 1/200, staining of DHP receptor in rabbit skeletal muscle with SM5114 results in double rows of discrete punctate staining representing pairs of triads on the opposing sides of the Z-lines. This product can be used to inhibit the DHP-sensitive calcium current in BC3H1 mouse muscle cells.</p> <p>Western Blot: 1/500, detects an ~200 kDa protein representing the DHP receptor in rat skeletal muscle extracts.</p> <p>Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.</p>
<b>Specificity:</b>	This antibody detects 1,4-dihydropyridine (DHP) receptor alpha-1 subunit in human, rat, mouse, guinea pig and rabbit skeletal muscle.

- Storage:** Store the antibody at -20°C.  
Avoid repeated freezing and thawing.  
Shelf life: one year from despatch.
- General Readings:**
1. J. Appl. Physiology Vol. 96, 11-18 Jan 2004.
  2. J. Histo. & Cyto. 53(2):217-227, 2005.
  3. J. Histo. & Cyto. 53(1):87-91, 2005.
  4. Am. J. Physiol., 268(37): F251-F257, 1995.
  5. FASEB J., 8: 884-888, 1994.
  6. J. Biol. Chem., 262(25): 11904-11907, 1987.