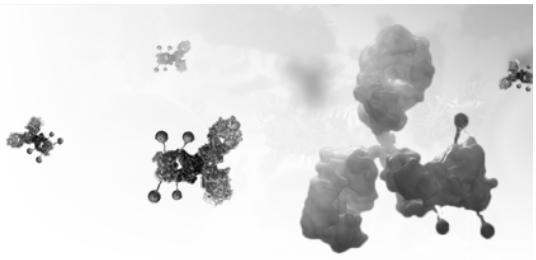

Mouse Anti-KLC monoclonal antibody, clone 74-00 (CABT-RM174)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Specificity	Detects both KLC1 and KLC2. It targets an epitope with in the N-terminal region.
Target	KLC
Immunogen	Purified rat brain Kinesin light chain 1.
Isotype	IgG1, κ
Source/Host	Mouse
Species Reactivity	Mouse, Rat, Squid
Clone	74-00
Purification	Protein G purified
Conjugate	unconjugated
Applications	IHC, IP, WB
Molecular Weight	~62 and 70 kDa observed for KLC1 and KLC2, respectively; 63.75 and 68.61 calculated for KLC1 and KLC2, respectively. Uncharacterized bands may be observed in some lysate(s).
Format	Liquid
Size	100 µg
Buffer	0.1 M Tris-Glycine (pH 7.4), 150 mM NaCl
Preservative	0.05% sodium azide

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Storage	Stable for 1 year at 2-8°C from date of receipt.

BACKGROUND

Introduction	Kinesin light chain is encoded by the Klc1/Klc2 gene in rat. Kinesin is a microtubule-associated force-producing protein that may play a role in organelle transport. The kinesin light chain (KLC) may function in coupling of cargo to the heavy chain or in the modulation of its ATPase activity. Kinesin light chain 1 is expressed in the brain tissue and exists as an oligomeric complex of two heavy and two light chains. It also contains six tetratricopeptide repeats (TPR). The heavy chains of kinesin have a microtubule-binding ATPase motor domain at their amino terminus, a neck coil, and an extended series of coiled coils, separated by a hinge region, that results in heavy-chain dimerization. Kinesin light chains can associate with the heavy-chain coiled coils at the carboxyl-terminal region. The light chains bind cargoes and regulate its activity. KLCs through their TRP repeat domains can recognize shirt linear peptide motifs found on cargo proteins. In the absence of any cargo binding, kinesin-1 exists in a folded compact state, which prevents unnecessary cycles of ATP hydrolysis. However, in the cargo-bound active state inhibition is relieved and it adopts a more elongated structure that can hydrolyze ATP and translocate along microtubules. Point mutations in Klc gene can affect functional domains in kinesin, which can result in late-onset dying-back neuropathies in sensory or motor neurons.
Keywords	KLC; Kinesin light chain; KLC1; KLC2; Kns2; KNS2A; kinesin light chain 2; kinesin light chain 1; KLC 1; KLC 2

GENE INFORMATION

Entrez Gene ID	282679 309159
UniProt ID	P37285 B2GV74

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