

Recombinant SMARCAD1 protein

Catalog No: 82170, 82770

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Source: Human

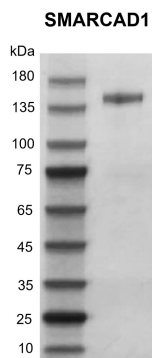
Buffer Contents: Recombinant SMARCAD1 protein is supplied in 25 mM HEPES pH 7.5, 300 mM NaCl, 20% glycerol, 0.04% Triton X-100, 0.5 mM TCEP.

Background: **SMARCAD1** (SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin subfamily A containing DEAD/H box 1), also known as ETL1, HEL1, HRZ, or KIAA1122, is a multifunctional ATP-dependent nucleosome remodeling enzyme belonging to the SNF2/RAD54 helicase family. This protein plays a dual role in both the DNA damage response and the maintenance of epigenetic stability; it promotes the resection of DNA ends at double-strand breaks (DSBs) to facilitate homologous recombination repair, while it is also required post-replication to restore heterochromatin organization by directing histone H3/H4 deacetylation and H3K9 trimethylation. **SMARCAD1** antagonizes the repair inhibitor 53BP1 at damage sites and colocalizes with PCNA at replication forks to ensure proper chromatin silencing, with mutations in this gene leading to conditions such as adermatoglyphia (absence of fingerprints) and Basan syndrome.

Protein Details: Recombinant SMARCAD1 protein was expressed in a baculovirus expression system as the full length protein (accession number NP_064544.2) with an N-terminal FLAG tag. The molecular weight of the protein is 118.7 kDa.

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for this product is shown.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

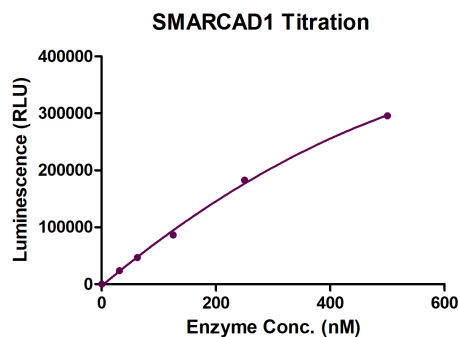


Recombinant SMARCAD1 protein gel

4-20% SDS-PAGE gel

MW: 118.7 kDa

Purity: >95%



ADP-Glo assay for SMARCAD1 activity

0.4 μ M polynucleosomes H3.1 (Cat# 31466) was incubated with different concentrations of SMARCAD1 protein in a 10 μ l reaction system containing 40 mM Tris-HCl pH 7.4, 20 mM MgCl₂, 1 mM DTT, 0.1 mg/ml BSA and 20 μ M ATP at 30°C for 1 hour, then 10 μ l ADP Glo Reagent was added. After 40 minutes incubation at RT, 20 μ l Kinase Detection Reagent was added in the system. Following 30 minutes incubation at RT, luminescence was detected with a plate reader.