ATP synthase subunit IF_1 monoclonal antibody

CATALOG #:	A21355
COMPONENTS:	100 µg monoclonal antibody
APPLICATIONS:	Western blotting
CLONE ID OF MONOCLONAL ANTIBODY (mAb):	5E2D7
SPECIES CROSS-REACTIVITY:	Human, bovine, rat, and mouse. Bands at ~10 and ~18 kDa.
HOST SPECIES AND ISOTYPE:	Mouse IgG1, k
IMMUNOGEN:	Recombinant IF_1
CONCENTRATION:	1 mg/mL in Hepes-Buffered Saline (HBS) with 0.02% azide as a preservative
SUGGESTED WORKING CONCENTRATION:	1 µg/mL for Western blotting
mAb PURITY:	Near homogeneity as judged by SDS-PAGE. The antibody was produced *in vitro* using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.
STORAGE CONDITIONS:	Store at 4°C. Do not freeze.

BACKGROUND:

Complex V, also called F_1F_0 ATPase or ATP synthase, is responsible for ATP production in oxidative phosphorylation and can work in reverse as a proton pumping ATPase. The enzyme was thought to be localized exclusively to mitochondria; however, it has recently been identified on the plasma membrane of several cell types including hepatocytes where it functions as the HDL receptor, on endothelial cells where it may act as the angiostatin receptor, and on the surface of cancer cells.

The enzyme in mammals is composed of 17 subunits, five of which make up the easily detached F_1. The remainder subunits are components of two stalk domains and the proton pumping F_0 part of the machinery. Two of the subunits of the F_0 part are encoded on mitochondrial DNA while the other subunits are nuclearly encoded. Mutations in the mitochondrial-encoded subunits of ATP synthase (Complex V) cause OXPHOS disease.

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