

# DDEF1 (B-10): sc-374410

## BACKGROUND

DDEF1 (development and differentiation enhancing factor 1), also known as ASAP1, AMAP1 or PAG2, is an ADP ribosylation factor (ARF)-GTPase activating protein (GAP) that interacts with various signal transduction proteins. Localized to the cytoplasm and to newly formed focal complexes at the cell periphery, DDEF1 coordinates with proteins such as ARF1, ARF5, ARF6 and SRK (ZAP-70) to influence growth and differentiation events. Through its interactions with these proteins, DDEF1 plays a key role in cell motility and regulation of actin cytoskeletal remodeling, as well as in differentiation of adipocytes and fibroblasts. DDEF1 contains two ANK repeats, one ARF-GAP domain, one SH3 domain and one PH domain which is essential in the phosphoinositide-dependent regulation of ARFs. Overexpression of DDEF1 is thought to block the invasion and metastasis of breast cancer and high-grade uveal melanomas, suggesting a possible role as a therapeutic target and diagnostic marker for certain cancers.

## REFERENCES

1. Furman, C., et al. 2002. DEF-1/ASAP1 is a GTPase-activating protein (GAP) for ARF1 that enhances cell motility through a GAP-dependent mechanism. *J. Biol. Chem.* 277: 7962-7969.
2. Onodera, Y., et al. 2005. Expression of AMAP1, an ArfGAP, provides novel targets to inhibit breast cancer invasive activities. *EMBO J.* 24: 963-973.
3. Ehlers, J.P., et al. 2005. DDEF1 is located in an amplified region of chromosome 8q and is overexpressed in uveal melanoma. *Clin. Cancer Res.* 11: 3609-3613.

## CHROMOSOMAL LOCATION

Genetic locus: ASAP1 (human) mapping to 8q24.21; Asap1 (mouse) mapping to 15 D1.

## SOURCE

DDEF1 (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 837-873 near the C-terminus of DDEF1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDEF1 (B-10) is available conjugated to agarose (sc-374410 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374410 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374410 PE), fluorescein (sc-374410 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374410 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374410 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374410 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374410 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374410 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374410 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374410 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

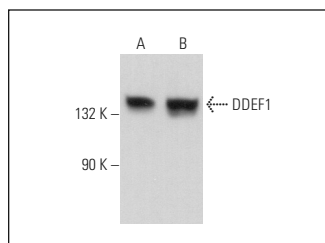
DDEF1 (B-10) is recommended for detection of DDEF1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DDEF1 siRNA (h): sc-62196, DDEF1 siRNA (m): sc-62197, DDEF1 shRNA Plasmid (h): sc-62196-SH, DDEF1 shRNA Plasmid (m): sc-62197-SH, DDEF1 shRNA (h) Lentiviral Particles: sc-62196-V and DDEF1 shRNA (m) Lentiviral Particles: sc-62197-V.

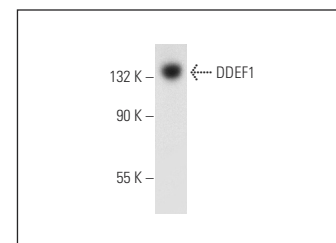
Molecular Weight of DDEF1: 125 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or IMR-32 cell lysate: sc-2409.

## DATA



DDEF1 (B-10): sc-374410. Western blot analysis of DDEF1 expression in HeLa (A) and A-431 (B) whole cell lysates.



DDEF1 (B-10): sc-374410. Western blot analysis of DDEF1 expression in human hippocampus tissue extract.

## SELECT PRODUCT CITATIONS

1. Cui, J., et al. 2020. Asap1 affects the susceptibility of zebrafish to *Mycobacterium* by regulating macrophage migration. *Front. Cell. Infect. Microbiol.* 10: 519503.
2. Cui, J., et al. 2021. ASAP1 regulates the uptake of *Mycobacterium tuberculosis* H37Ra in THP1-derived macrophages by remodeling Actin cytoskeleton. *Tuberculosis* 129: 102090.
3. Ge, W., et al. 2022. miR-802 suppress acinar-to-ductal reprogramming during early pancreatitis and pancreatic carcinogenesis. *Gastroenterology* 162: 269-284.
4. Huo, X., et al. 2022. FAK PROTAC inhibits ovarian tumor growth and metastasis by disrupting kinase dependent and independent pathways. *Front. Oncol.* 12: 851065.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.