SANTA CRUZ BIOTECHNOLOGY, INC.

# DOCK 8 (G-2): sc-376911

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

DOCK 8 (dedicator of cytokinesis 8) is a 2,099 amino acid protein that contains one DHR-2 (CZH-2) domain and one DHR-1 (CZH-1) domain. One of several members of the DOCK180 family of cytokinesis-regulating proteins, DOCK 8 functions as a guanine nucleotide exchange factor (GEF) that may play a role in protein activation and is thought to influence Actin organization. Defects in the gene encoding DOCK 8 are associated with the pathogenesis of autosomal dominant mental retardation (MRD2), possibly due to errors in Actin-based cytoskeletal structure. Mutations in this gene also result in the autosomal recessive form of the hyper-IgE syndrome, a rare disorder characterized by immunodeficiency, recurrent infections, eczema, increased serum IgE, eosinophilia and lack of connective tissue and skeletal involvement. Multiple isoforms of DOCK 8 exist due to alternative splicing events. The gene encoding DOCK 8 maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome.

## REFERENCES


1. Ruusala, A., et al. 2004. Isolation and characterisation of DOCK 8, a member of the DOCK180-related regulators of cell morphology. FEBS Lett. 572: 159-166.
2. Griggs, B.L., et al. 2008. Dedicator of cytokinesis 8 is disrupted in two patients with mental retardation and developmental disabilities. Genomics 91: 195-202.
3. Zhang, Q., et al. 2009. Combined immunodeficiency associated with DOCK 8 mutations. N. Eng. J. Med. 361: 2046-2055.
4. Jabara, H.H., et al. 2012. DOCK 8 functions as an adaptor that links TLR-MyD88 signaling to B cell activation. Nat. Immunol. 13: 612-620.


## CHROMOSOMAL LOCATION

Genetic locus: DOCK8 (human) mapping to 9p24.3; Dock8 (mouse) mapping to 19 B.

## SOURCE

DOCK 8 (G-2) is a mouse monoclonal antibody raised against amino acids 119-277 mapping near the N-terminus of DOCK 8 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DOCK 8 (G-2) is available conjugated to agarose (sc-376911 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376911 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376911 PE), fluorescein (sc-376911 FITC), Alexa Fluor® 488 (sc-376911 AF488), Alexa Fluor® 546 (sc-376911 AF546), Alexa Fluor® 594 (sc-376911 AF594) or Alexa Fluor® 647 (sc-376911 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376911 AF680) or Alexa Fluor® 790 (sc-376911 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

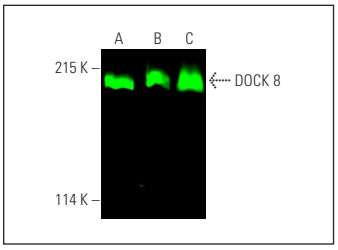
DOCK 8 (G-2) is recommended for detection of DOCK 8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 DOCK 8 siRNA (h): sc-92764, DOCK 8 siRNA (m): sc-143137, DOCK 8 shRNA Plasmid (h): sc-92764-SH, DOCK 8 shRNA Plasmid (m): sc-143137-SH, DOCK 8 shRNA (h) Lentiviral Particles: sc-92764-V and DOCK 8 shRNA (m) Lentiviral Particles: sc-143137-V.

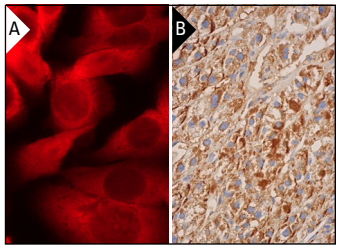
Molecular Weight of DOCK 8: 190 kDa.

Positive Controls: Raji whole cell lysate: sc-364236, THP-1 cell lysate: sc-2238 or NAMALWA cell lysate: sc-2234.

## DATA




DOCK 8 (G-2) Alexa Fluor® 680: sc-376911 AF680. Direct near-infrared western blot analysis of DOCK 8 expression in NAMALWA (**A**), Raji (**B**) and THP-1 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.




DOCK 8 (G-2) PE: sc-376911 PE. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and nuclear localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). DOCK 8 (G-2): sc-376911. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Pai, S.Y., et al. 2014. Flow cytometry diagnosis of dedicator of cytokinesis 8 (DOCK 8) deficiency. J. Allergy Clin. Immunol. 134: 221-223.
2. Keles, S., et al. 2016. Dedicator of cytokinesis 8 regulates signal transducer and activator of transcription 3 activation and promotes TH17 cell differentiation. J. Allergy Clin. Immunol. 138: 1384-1394.e2.
3. Janssen, E., et al. 2016. A DOCK8-WIP-WASp complex links T cell receptors to the Actin cytoskeleton. J. Clin. Invest. 126: 3837-3851.
4. Raedler, J., et al. 2021. Lineage-specific chimerism and outcome after hematopoietic stem cell transplantation for DOCK 8 deficiency. J. Clin. Immunol. 41: 1536-1548.


## STORAGE

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