SANTA CRUZ BIOTECHNOLOGY, INC.

DAGLβ (A-5): sc-514738

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the AB hydrolase superfamily have diverse catalytic functions and play a crucial role in the metabolism of lipids. DAGLβ (diacylglycerol lipase β), also known as KCCR13L, is a 672 amino acid multi-pass membrane protein that belongs to the AB hydrolase superfamily. DAGLβ uses calcium as a cofactor to catalyze the hydrolysis of diacylglycerol (DAG) to 2-arachidonoyl-glycerol (2-AG), a reaction that is required for axonal growth and for retrograde synaptic signaling at mature synapses. DAGLβ functions at an optimal pH of 7 and its activity is inhibited by p-hydroxy-mercuri-benzoate and $HgCl_2$, but not PMSF. There are three isoforms of DAGLβ that are produced as a result of alternative splicing events.

REFERENCES

1. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 169-176.
2. Nakajima, D., et al. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. DNA Res. 9: 99-106.
3. Bisogno, T., et al. 2003. Cloning of the first sn1-DAG lipases points to the spatial and temporal regulation of endocannabinoid signaling in the brain. J. Cell Biol. 163: 463-468.
4. Ligresti, A., et al. 2005. Endocannabinoid metabolic pathways and enzymes. Curr. Drug Targets CNS Neurol. Disord. 4: 615-623.

CHROMOSOMAL LOCATION

Genetic locus: DAGLB (human) mapping to 7p22.1.

SOURCE

DAGLβ (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 554-569 within a C-terminal cytoplasmic domain of DAGLβ of human origin.

PRODUCT

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

DAGLβ (A-5) is available conjugated to agarose (sc-514738 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514738 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514738 PE), fluorescein (sc-514738 FITC), Alexa Fluor® 488 (sc-514738 AF488), Alexa Fluor® 546 (sc-514738 AF546), Alexa Fluor® 594 (sc-514738 AF594) or Alexa Fluor® 647 (sc-514738 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514738 AF680) or Alexa Fluor® 790 (sc-514738 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514738 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

DAGLβ (A-5) is recommended for detection of DAGLβ isoforms 1 and 2 of 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 DAGLβ siRNA (h): sc-89591, DAGLβ shRNA Plasmid (h): sc-89591-SH and DAGLβ shRNA (h) Lentiviral Particles: sc-89591-V.

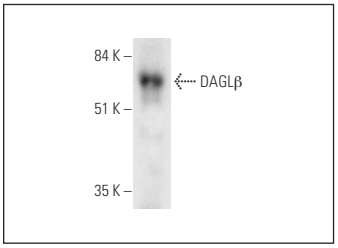
Molecular Weight of DAGLβ: 74/43/29 kDa.

Positive Controls: human placenta extract: sc-363772.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DAGLβ (A-5): sc-514738. Western blot analysis of DAGLβ expression in human placenta tissue extract.

SELECT PRODUCT CITATIONS

1. Angyal, Á., et al. 2021. Anandamide concentration-dependently modulates Toll-like receptor 3 agonism or UVB-induced inflammatory response of human corneal epithelial cells. Int. J. Mol. Sci. 22: 7776.

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.