SANTA CRUZ BIOTECHNOLOGY, INC.

DAGLα (N-13): sc-133308

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. DAGLα (diacylglycerol lipase α), also known as NSDDR or C11orf11, is a 1,042 amino acid multi-pass membrane protein that belongs to the AB hydrolase superfamily. Highly expressed in brain and pancreas, DAGLα 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. DAGLα functions as at optimal pH of 7 and its activity is inhibited by p-hydroxy-mercuri-benzoate and $HgCl_2$. The gene encoding DAGLα maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

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 endocanna-binoid 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.
5. Jung, K.M., et al. 2005. Stimulation of endocannabinoid formation in brain slice cultures through activation of group I metabotropic glutamate receptors. Mol. Pharmacol. 68: 1196-1202.
6. Hashimotodani, Y., et al. 2007. Endocannabinoids and synaptic function in the CNS. Neuroscientist 13: 127-137.

CHROMOSOMAL LOCATION

Genetic locus: DAGLA (human) mapping to 11q12.2; Dagla (mouse) mapping to 19 A.

SOURCE

DAGLα (N-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of DAGLα of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133308 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

DAGLα (N-13) is recommended for detection of DAGLα isoforms 1-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with DAGLβ.

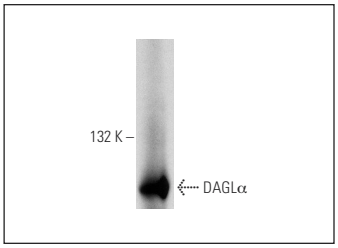
DAGLα (N-13) is also recommended for detection of DAGLα isoforms 1-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DAGLα siRNA (h): sc-96964, DAGLα siRNA (m): sc-142868, DAGLα shRNA Plasmid (h): sc-96964-SH, DAGLα shRNA Plasmid (m): sc-142868-SH, DAGLα shRNA (h) Lentiviral Particles: sc-96964-V and DAGLα shRNA (m) Lentiviral Particles: sc-142868-V.

Molecular Weight of DAGLα: 120 kDa.

Positive Controls: mouse skeletal muscle extract: sc-364250.

DATA



DAGLα (N-13): sc-133308. Western blot analysis of DAGLα expression in mouse skeletal muscle tissue extract.

SELECT PRODUCT CITATIONS

1. Pucci, M., et al. 2012. Endocannabinoids stimulate human melanogenesis via type-1 cannabinoid receptor. J. Biol. Chem. 287: 15466-15478.
2. Shimizu, T., et al. 2013. Stimulatory and inhibitory roles of brain 2-arachidonoylglycerol in bombesin-induced central activation of adrenomedullary outflow in rats. J. Pharmacol. Sci. 121: 157-171.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.