

# DDC (N-18): sc-46911

## BACKGROUND

DOPA decarboxylase (DDC), also designated aromatic-L-amino-acid decarboxylase (AADC) belongs to the group II decarboxylase family of proteins. DDC, which can form a homodimer, is an important protein in the catecholamine biosynthesis pathway. DDC acts as a catalyst in the decarboxylation of L-5-hydroxytryptophan to serotonin, L-3,4-dihydroxyphenylalanine (DOPA) to dopamine and L-tryptophan to tryptamine. Defects in the gene encoding for DDC may cause the autosomal recessive disorder AADC deficiency. AADC deficiency is an early onset inborn error in neurotransmitter metabolism which can lead to catecholamine and serotonin deficiency. This causes poor feeding, psychomotor and developmental delays, lethargy, ptosis, gastrointestinal disturbances and hypothermia.

## REFERENCES

1. Scherer, L.J., McPherson, J.D., Wasmuth, J.J. and Marsh, J.L. 1992. Human DOPA decarboxylase: localization to human chromosome 7p11 and characterization of hepatic cDNAs. *Genomics* 13: 469-471.
2. Sumi-Ichinose, C., Ichinose, H., Takahashi, E., Hori, T. and Nagatsu, T. 1992. Molecular cloning of genomic DNA and chromosomal assignment of the gene for human aromatic L-amino acid decarboxylase, the enzyme for catecholamine and serotonin biosynthesis. *Biochemistry* 31: 2229-2238.
3. Craig, S.P., Thai, A.L., Weber, M. and Craig, I.W. 1992. Localization of the gene for human aromatic L-amino acid decarboxylase (DDC) to chromosome 7p13 → p11 by *in situ* hybridisation. *Cytogenet. Cell Genet.* 61: 114-116.
4. Le Van Thai, A., Coste, E., Allen, J.M., Palmiter, R.D. and Weber, M.J. 1993. Identification of a neuron-specific promoter of human aromatic L-amino acid decarboxylase gene. *Brain Res. Mol. Brain Res.* 17: 227-238.
5. Vassilacopoulou, D., Sideris, D.C., Vassiliou, A.G. and Fragoulis, E.G. 2004. Identification and characterization of a novel form of the human L-DOPA decarboxylase mRNA. *Neurochem. Res.* 29: 1817-1823.

## CHROMOSOMAL LOCATION

Genetic locus: DDC (human) mapping to 7p12.1; Ddc (mouse) mapping to 11 A1.

## SOURCE

DDC (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of DDC of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46911 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

DDC (N-18) is recommended for detection of DDC of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

DDC (N-18) is also recommended for detection of DDC in additional species, including equine and canine.

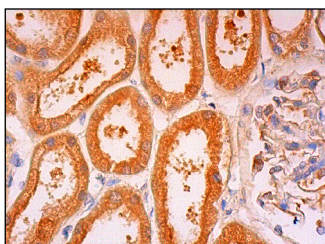
Suitable for use as control antibody for DDC siRNA (h): sc-60515, DDC siRNA (m): sc-60516, DDC shRNA Plasmid (h): sc-60515-SH, DDC shRNA Plasmid (m): sc-60516-SH, DDC shRNA (h) Lentiviral Particles: sc-60515-V and DDC shRNA (m) Lentiviral Particles: sc-60516-V.

Molecular Weight of DDC: 50 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



DDC (N-18): sc-46911. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## RESEARCH USE

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

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Try **DDC (8E8): sc-293287**, our highly recommended monoclonal alternative to DDC (N-18).