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GDNF Rabbit pAb

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Catalog # AP52201

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P39905
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	23720
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GDNF
Epitope Specificity	121-211/211
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Secreted.
DISEASE	Defects in GDNF may be a cause of Hirschsprung disease type 3 (HSCR3) [MIM:613711]. In association with mutations of RET gene, defects in GDNF may be involved in Hirschsprung disease. This genetic disorder of neural crest development is characterized by the absence of intramural ganglion cells in the hindgut, often resulting in intestinal obstruction. Defects in GDNF are a cause of congenital central hypoventilation syndrome (CCHS) [MIM:209880]; also known as congenital failure of autonomic control or Ondine curse. CCHS is a rare disorder characterized by abnormal control of respiration in the absence of neuromuscular or lung disease, or an identifiable brain stem lesion. A deficiency in autonomic control of respiration results in inadequate or negligible ventilatory and arousal responses to hypercapnia and hypoxemia.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Neurobiology. Neurotrophins. Neuroscience. This gene encodes a highly conserved neurotrophic factor. The recombinant form of this protein was shown to promote the survival and differentiation of dopaminergic neurons in culture, and was able to prevent apoptosis of motor neurons induced by axotomy. The encoded protein is processed to a mature secreted form that exists as a homodimer. The mature form of the protein is a ligand for the product of the RET (rearranged during transfection) protooncogene. In addition to the transcript encoding GDNF, two additional alternative transcripts encoding distinct proteins, referred to as astrocyte-derived trophic factors, have also been described. Mutations in this gene may be associated with Hirschsprung disease.

Additional Information

Gene ID	2668
Other Names	Glial cell line-derived neurotrophic factor, hGDNF, Astrocyte-derived trophic factor, ATF, GDNF
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:200-800
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	GDNF
Function	Neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high- affinity dopamine uptake (PubMed:8493557). Acts by binding to its coreceptor, GFRA1, leading to autophosphorylation and activation of the RET receptor (PubMed:10829012, PubMed:25242331, PubMed:31535977). Involved in the development of the neural crest (PubMed:15242795).
Cellular Location	Secreted
Tissue Location	In the brain, predominantly expressed in the striatum with highest levels in the caudate and lowest in the putamen Isoform 2 is absent from most tissues except for low levels in intestine and kidney. Highest expression of isoform 3 is found in pancreatic islets. Isoform 5 is expressed at very low levels in putamen, nucleus accumbens, prefrontal cortex, amygdala, hypothalamus and intestine. Isoform 3 is up-regulated in the middle temporal gyrus of Alzheimer disease patients while isoform 2 shows no change

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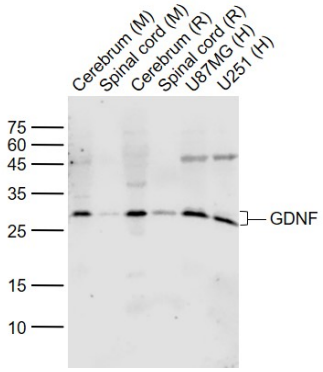
References

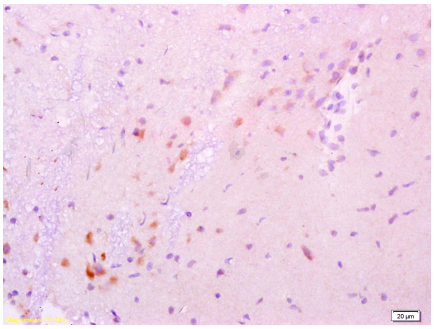
Lin L.-F.H.,et al.Science 260:1130-1132(1993).
Schaar D.G.,et al.Exp. Neurol. 130:387-393(1994).
Zhang B.,et al.Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.
Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Schmutz J.,et al.Nature 431:268-274(2004).

Images

Sample:
Lane 1: Cerebrum (Mouse) Lysate at 40 ug
Lane 2: Spinal cord (Mouse) Lysate at 40 ug
Lane 3: Cerebrum (Rat) Lysate at 40 ug
Lane 4: Spinal cord (Rat) Lysate at 40 ug
Lane 5: U87MG (Human) Cell Lysate at 30 ug



Lane 6: U251 (Human) Cell Lysate at 30 ug
Primary: Anti-GDNF (AP52201) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 25/20 kD
Observed band size: 28 kD



Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-GDNF Polyclonal Antibody, Unconjugated(AP52201) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining