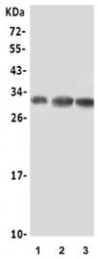
Beta NGF Antibody / Mature Neurotrophin Antibody (RQ5951)

Catalog No.	Formulation	Size
RQ5951	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P01138
Applications	Western Blot : 0.5-1ug/ml
Limitations	This Beta NGF Antibody / Mature Neurotrophin Antibody is available for research use only.



Beta NGF Antibody Cell Lysate WB. Western blot analysis of human U-87 MG, 22RV1, and A549 cell lysates using recombinant rabbit monoclonal clone BDE-14. Lane 1: U-87 MG lysate, Lane 2: 22RV1 lysate, Lane 3: A549 lysate. A prominent band is detected near 27-30 kDa, consistent with the reported molecular weight range of mature beta-NGF dimer-associated forms. The observed signal pattern aligns with processed Nerve growth factor expression and neurotrophin-associated signaling biology across multiple human cell types.

Description

Nerve growth factor (NGF) is a neurotrophin family protein encoded by the NGF gene that regulates neuronal survival, neurite extension, synaptic plasticity, and peripheral nervous system development. Beta NGF Antibody / Mature Neurotrophin Antibody is designed for the investigation of mature NGF-associated signaling pathways involved in neuronal differentiation and neurotrophic support. Beta NGF antibody, also referred to as Mature NGF antibody, NGF beta antibody, or Beta nerve growth factor antibody in the literature, recognizes the biologically active neurotrophin form that preferentially activates TrkA-mediated signaling cascades associated with neuronal maintenance and survival. Clone BDE-14 antibody supports research applications focused on neurotrophin processing, secretion, and mature NGF-

associated cellular signaling.

NGF is synthesized as a precursor molecule known as proNGF that undergoes intracellular and extracellular proteolytic cleavage to generate mature beta-NGF. These two forms exhibit biologically distinct signaling properties. Mature beta-NGF primarily activates the high-affinity TrkA receptor, stimulating pathways involved in neuronal survival, axonal growth, differentiation, and synaptic remodeling. In contrast, proNGF has been associated with p75NTR-mediated apoptotic and stress-response signaling in selected cellular contexts. Because of this functional divergence, mature beta-NGF detection has become increasingly important in studies investigating neuronal regeneration, neuroplasticity, and neurotrophic signaling balance.

Mature beta-NGF is highly relevant in sensory neuron biology, sympathetic nervous system maintenance, and tissue repair responses following injury. Increased NGF production has been reported during inflammation, wound healing, peripheral nerve regeneration, and chronic pain states. Elevated NGF signaling contributes to nociceptor sensitization and inflammatory hyperalgesia through downstream activation of MAPK/ERK, PI3K-AKT, and PLC-gamma signaling pathways. Beta-NGF additionally participates in neuroimmune communication by influencing mast cells, macrophages, lymphocytes, and stromal cell populations within inflammatory microenvironments.

In cancer research, NGF-TrkA pathway activation has been associated with tumor survival signaling, angiogenesis, neural invasion, and tumor microenvironment remodeling in several malignancies including breast cancer, prostate cancer, pancreatic cancer, and neural crest-derived tumors. Mature NGF signaling has also been explored in neurodegenerative disease models involving Alzheimer's disease, Parkinsonian syndromes, diabetic neuropathy, and spinal cord injury. Because mature beta-NGF represents the biologically active neurotrophic form responsible for canonical TrkA receptor activation, antibodies directed toward this signaling axis are widely used in translational neuroscience and regenerative medicine studies.

At the cellular level, mature NGF is commonly localized within secretory vesicles, cytoplasmic granules, and extracellular signaling compartments associated with peptide secretion. Immunofluorescence studies frequently demonstrate punctate cytoplasmic staining patterns consistent with neurotrophin trafficking through the endoplasmic reticulum and Golgi-associated secretory network. In tissue sections, beta-NGF expression may be observed in neurons, peripheral nerve fibers, epithelial structures, glandular tissues, and injury-responsive stromal cells depending on physiologic and disease state context. The Beta NGF Antibody provides a consistent and highly specific approach for studying mature NGF-associated neurotrophin biology and neuronal signaling mechanisms.

Our NGF Antibody / Neurotrophin Signaling Marker Antibody page highlights clone BDE-14 for detection of Nerve growth factor expression in neuronal signaling, neurodevelopment, tissue repair, and neurodegeneration research applications.

Application Notes

Optimal dilution of the Beta NGF Antibody / Mature Neurotrophin Antibody should be determined by the researcher.

Immunogen

Amino acids THTFVKALTMDGKQAAWRFIRID from the human protein were used as the immunogen for the Beta NGF antibody.

Storage

After reconstitution, the Beta NGF antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Beta nerve growth factor antibody, Mature NGF antibody, NGF beta antibody, Mature neurotrophin antibody, Processed NGF antibody