

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Neurogranin in direct ELISAs
Source	Monoclonal Mouse IgG _{2B} Clone # 1034203
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Neurogranin Met1-Asp78 Accession # Q92686
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

ELISA Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

NRGN (Neurogranin/Ng; also known as RC3, p17 and BICKS) is a member of the neurogranin family of proteins. Although its predicted MW is 7.5 kDa, it runs anomalously at 15-19 kDa in SDS-PAGE. This is apparently due to the adoption of a rigid alpha-helical structure in a negatively charged medium. NRGN has limited expression, being found principally in excitatory neurons of the telencephalon, Golgi and Purkinje cells of the cerebellum, and platelets plus B and T cells in non-nervous tissue. Intracellularly, NRGN is found associated with membranes of the ER, Golgi and mitochondria. This association is often in the form of aggregates (or granules), thus giving rise to its name ("neuro-granules"). NRGN is also found in the nucleus and associated with the postsynaptic spines of dendrites. The principal function of NRGN appears to be the binding, sequestration and concentration of CaM (Calmodulin; a Ca-binding protein) in dendritic spines. Following NMDAR activation, Ca diffuses into the synaptic area, resulting in 1) the simple dissociation of CaM from NRGN, or 2) the phosphorylation of NRGN followed by its dissociation from CaM. In either case, the freed CaM is now available to activate multiple downstream signaling pathways, some involved in LTP (or memory). Human NRGN is 78 amino acids (aa) in length. It contains one IQ domain (aa 26-47) that binds CaM, and a collagen-like region at the C-terminus (aa 48-78). Regulatory phosphorylation occurs on Ser36, and the N-terminal Met is acetylated. Full-length human NRGN shares 96% aa sequence identity with both mouse and rat NRGN.

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