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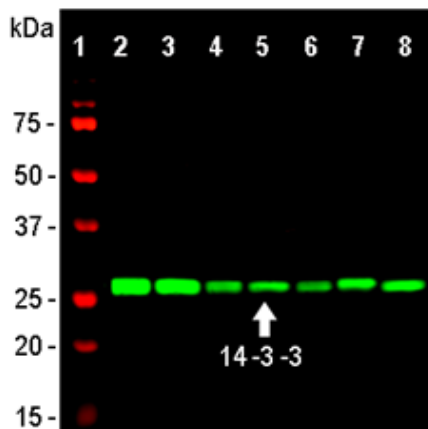
HGNC name: YWHAH
RRID: AB_2572217
Host Species: Mouse
Immunogen: Full length recombinant human protein
Format: affinity purified at 1mg/mL in PBS, 50% glycerol, 5mM NaN₃
Storage: Store at 4°C for short term and at -20°C for long term. Avoid repeated freeze / thaw cycles.

Recommended dilutions:
WB: 1:2,000
IF/IHC: 1:500-1:1,000
Application notes: Western blotting standard

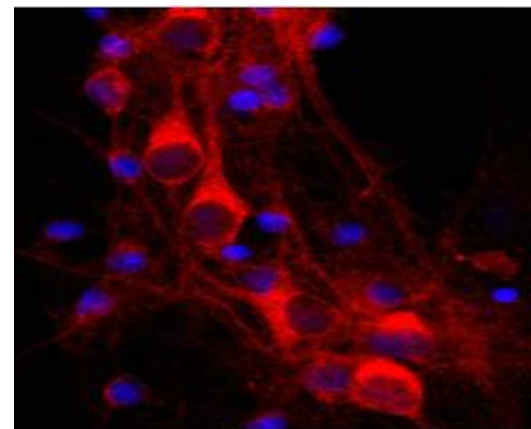
References:

- Morrison, DK. The 14-3-3 proteins: integrators of diverse signaling cues that impact cell fate and cancer development. *Trends Cell Biol.* 19:16-23 (2009).
- Hsich G, Kenney K, Gibbs CJ, Lee KH and Harrington MG. The 14-3-3 brain protein in cerebrospinal fluid as a marker for transmissible spongiform encephalopathies. *N Engl J Med.* 335:924-30 (1996).
- Ubl A, Berg D, Holzmann C, Krüger R, Berger K, Arzberger T, Bornemann A, Riess O. 14-3-3 protein is a component of Lewy bodies in Parkinson's disease-mutation analysis and association studies of 14-3-3 eta. *Brain Res Mol Brain Res.* 108(1-2):33-9 (2002).
- Middleton FA, Peng L, Lewis DA, Levitt P, Mirmics K. Altered expression of 14-3-3 genes in the prefrontal cortex of subjects with schizophrenia. *Neuropsychopharmacology* 30(5):974-83 (2005).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, ICC/IF, IHC	M	IgG1	28kDa	H, R, M, B, C



Western blot analysis of neural tissue and cell lysates using Mouse mAb against 14-3-3 η (MCA-3G12, green). [1] protein standard, [2] Rat whole brain, [3] Mouse whole brain, [4] NIH/3T3, [5] Hek293, [6] HeLa, [7] SH-SY5Y, [8] C6 cells.



Immunofluorescent analysis of Rat mixed neuron/glia cell cultures stained with Mouse mAb against 14-3-3 η (MCA-3G12, red). Neuronal perikarya are very rich in 14-3-3 η which has a diffused cytoplasmic staining pattern. The blue is DAPI staining of nuclear DNA.

Background: The 14-3-3 family of proteins was originally discovered as prominent protein spots on 2-dimensional gels. They are a family of 28-33 kDa proteins which make up the major portion of cytoplasmic proteins (1). They act as binding partners for phosphoserine and phosphothreonine sites in other proteins, though they also have binding partners which are not phosphorylation-dependent. These binding interactions are important in the regulation of molecules such as signaling kinases in the [MAP kinase pathway](#), c-Raf and b-Raf, the proapoptotic molecules Bad and Bax, and the cell cycle regulator Cdc25. There are 7 mammalian 14-3-3 proteins and they are normally expressed as homo- or in some cases hetero-dimers. 14-3-3 η or 14-3-3-eta is widely expressed and concentrated in the nervous system. The [HGNC](#) name for this protein is [YWHAH](#), an alternate name is tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein 1, due to this protein's role in activation of tyrosine and tryptophan hydroxylases. The 14-3-3 η protein accumulates in the CSF of patients suffering from Creutzfeldt-Jacob Disease, and thus can be used for the diagnosis of this disease (2). Furthermore, this protein binds α -synuclein in the Lewy bodies of Parkinson's disease-affected brains and has been linked to early-onset schizophrenia (3,4).

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Abbreviation Key:

mAb—monoclonal antibody pAb—polyclonal antibody WB—Western IF—Immunofluorescence IHC—Immunohistochemistry ICC—Immunocytochemistry E—ELISA H—human M—mouse R—rat C—chicken B—bovine P—porcine D—dog