HGNC name: GAP43  
RRID: AB_2572287  
Immunogen: Recombinant full-length Human GAP43  
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN₃  
Storage: Shipped on ice. Stable at 4°C for one year, for longer term store at -20°C  
Recommended dilutions: Western blots: 1:1,000-5,000 IF/ICC and IHC: 1:1,000-5,000

References:  

Background: GAP43 is a very abundant nervous system protein which is found concentrated in neurons. One group discovered it as one of three proteins which becomes unregulated during the regeneration of the toad optic nerve (1).

Three GAPs (Growth associated proteins) were discovered, and the number 43 comes from the apparent SDS-PAGE molecular weight of the one named GAP43. The HGNC name for this protein is not surprisingly, GAP43. Later work showed that GAP43 does not run on SDS-PAGE in a fashion which accurately reflects its molecular weight, and that GAP43 proteins from different species may run at different apparent molecular weights. Particularly due to these features GAP43 was independently discovered by several different groups and therefore has several alternate names, such as protein F1, pp46, neuromodulin, neural phosphoprotein B-50 and calmodulin-binding protein P-57. In each case the number reflects the apparent SDS-PAGE molecular weight, and underlines the unusual SDS-PAGE mobility properties of this molecule.

Mammalian GAP43 protein contains only 226-243 amino acids, and so the real molecular weight is 23.61-25.14 kDa (to perform such calculations yourself see this link). GAP43 is one of many highly negatively charged extended molecules which lack a well defined tertiary structure and contain few hydrophobic residues and which run anomalously on SDS-PAGE. Other examples are CAP23, MARCKS, microtubule associated proteins MAP2, tau and the Neurofilament subunits. GAP43 has been extensively studied and is known to be a major protein kinase C substrate and to bind calmodulin avidly. GAP43 is anchored to the plasma membrane by palmitoylation modifications.