

Dab 1 (pY220) pAb Antibody

CATALOG NO.: XBP-4081

BACKGROUND:

Disabled 1 (Dab1) is an 80 kDa protein that is encoded by the Disabled-1 gene locus which is mutated in scrambler and yotari mutant mice. Phenotypically, the mutation of this gene produces motor defects and ataxia, disruption of neuronal migration, and severe cerebellar hypoplasia. Dab1 is an intracellular adapter protein that functions in downstream signaling events initiated by the secreted protein reelin. Dab1 contains a phosphotyrosine binding (PTB) domain in the amino terminus. Tyrosine phosphorylation of Dab1 is increased by reelin binding to the Very Low Density Lipoprotein Receptor (VLDLR) and Apolipoprotein E Receptor 2 (ApoER2) through stimulation of Src family kinases (e.g., Fyn). Src family kinase and c-Abl activities are themselves then stimulated by binding to tyrosine phosphorylated Dab1. Dab1 also mediates activation of Akt (PKB) by reelin resulting in inhibition of glycogen synthase kinase 3beta (GSK-3beta) and decreased phosphorylation of the microtubule-associated protein, Tau. Dab1 tyrosine 220 is a major site for reelin-induced Src family kinase-mediated phosphorylation in embryonic neurons.

SPECIFICITY:

Mouse (100% homologous) Dab1. Human, rat and chicken (100%) Dab1 have not been tested, but are expected to react.

SOURCE:

Dab1 antibody was produced against a chemically synthesized phosphopeptide derived from the region of human Dab1 that contains tyrosine 220. The sequence is conserved in mouse, rat and chicken.

Dab1 antibody was purified from rabbit serum by Protein A Sepharose affinity chromatography.

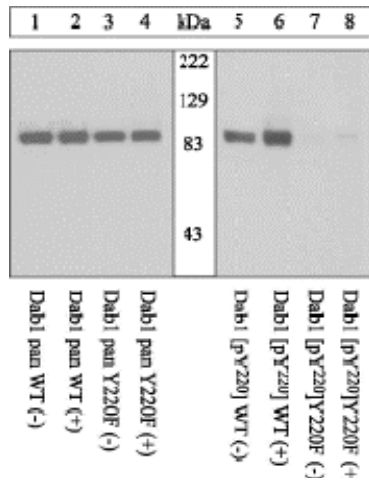
APPLICATION:

For Western blotting applications, we recommend using the antibody at 0.1-0.5 µg/mL. At 0.25 µg/mL, the dilution provides 100 mL working solution, which at 10 mL/blot allows 10 blots to be performed. **This product is for research use only.**

STORAGE:

Store at -80°C. Upon initial thawing, we recommend that this vial be briefly centrifuged to ensure recovery of the entire volume. The antibody should then be apportioned into working aliquots and stored at -80°C. Avoid repeated freeze/thaw cycles.

(07-02D)



Lysates prepared from HEK293 cells transfected with wild-type (1, 2, 5, 6) or Y220F mutant mouse Dab1 (3, 4, 7, 8) and left untreated (-) (1, 3, 5, 7) or treated with H₂O₂ (+) (2, 4, 6, 8) were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to PVDF. Membranes were blocked with a 5% BSA-TBST buffer overnight at 4°C, and incubated with a Dab1 pan antibody (1-4) or Dab1 [pY220] antibody (5-8) for two hours at room temperature in a 3% BSA-TBST buffer. After washing, membranes were incubated with goat F(ab')₂ anti-rabbit IgG HRP-conjugated and signals were detected using the Pierce SuperSignal(TM) method. The data show H₂O₂ stimulation of the phospho-Dab1 signal only in wild type Dab1-expressing cells. The Dab1 pan antibody reactivity confirms that similar levels of Dab1 protein were present in all cell lysates. These results demonstrate the specificity of the Dab1 [pY220] antibody for this site on the Dab1 protein.