

Background

Doks are a family of adaptor proteins that recruit SH2-containing molecules involved in various cell signaling pathways. Six Dok proteins (Dok1 to Dok6) have been identified and each has an N-terminal pleckstrin homology domain, a central phosphotyrosine binding domain, and a C-terminal region containing multiple tyrosine residues. When phosphorylated, these tyrosines can serve as docking sites for SH2 domain-containing proteins. Dok1 (p62dok) has been shown to bind Ras-GAP, Nck, and Csk. Several tyrosine phosphorylation sites have been identified for Dok1. One site, Tyr-362 (Tyr-361 mouse), is phosphorylated by c-Abl, is required for Nck binding, and may be critical for filopodia formation during fibroblast spreading on fibronectin. Alternatively, Dok1 activity is also regulated by serine phosphorylation. IκB Kinase β phosphorylates several serine sites including Ser-450 in vitro, and TNFα, IL-1, and radiation treatment lead to phosphorylation of Ser-443, Ser-446, and Ser-450 in vivo. Phosphorylation of these serine sites may be required for Dok-mediated inhibition of MAPK signaling and stimulation of cell motility.

Background References

- Noguchi, T. et al. (1999) EMBOJ 18(7):1748.
Kashige, N. et al. (2000) Proc. Nat. Acad. Sci. 97(5):2093.
Lee, S. et al. (2004) Proc. Nat. Acad. Sci. 101(50):17416.

Applications

Blocking 1:1000
ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

This peptide can be used as an unphosphorylated control peptide for Dok1 (Ser-450) antibody (DP2181) in ELISA, WB blocking, and ICC experiments.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

Unphosphorylated Dok1 (Ser-450) synthetic peptide corresponds to amino acids surrounding serine 450 in human Dok1. This sequence is conserved in Dok1 from rat (Ser-449) and mouse (Ser-451). The site is not conserved in other Dok family members.

Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at -20°C. Stable for 1 year.

Related Products

- DP2241 Dok1 (Tyr-362)/Dok2 (Tyr-337)], phospho-specific Rabbit Polyclonal
DP2181 Dok1 (Ser-450), phospho-specific Rabbit Polyclonal
DX2245 phospho-Dok1 (Tyr-362) Blocking Peptide
DX2305 unphosphorylated Dok1 (Tyr-362) Blocking Peptide
DX2185 phospho-Dok1 (Ser-450) Blocking Peptide

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