

Product Information

ANTI- p130^{Cas}

Developed in Rabbit, IgG Fraction of Antiserum

Product Number **C 0354**

Product Description

Anti-p130^{Cas} is developed in rabbit using a synthetic peptide KFTSQDSPDGQYENSEGG corresponding to the C-terminal region of human p130^{Cas} (amino acids 642-659) conjugated to KLH as immunogen. This sequence is identical in mouse and rat p130^{Cas} and has no homology to Cas-related proteins Hef1/Cas-L and Efs/Sin. Whole antiserum is fractionated and then further purified by ion-exchange chromatography to provide the IgG fraction of antiserum that is essentially free of other rabbit serum proteins.

Anti-p130^{Cas} recognizes human, mouse and rat p130^{Cas} (130 kDa). Applications include the detection and localization of p130^{Cas} by immunoblotting and immunoprecipitation. Staining of p130^{Cas} in immunoblotting is specifically inhibited with p130^{Cas} immunizing peptide (human, amino acids 642-659).

p130^{Cas} (Crk-associated protein, Cas) is a 120-130 kDa adaptor protein involved in a variety of biological processes including cell adhesion, cell migration, growth factor stimulation and cytokine receptor engagement. Members of Cas-related proteins family include Hef1(Cas-L) and Efs/Sin.

p130^{Cas} was first identified as a highly tyrosine-phosphorylated protein in both v-Src and v-Crk transformed cells.¹⁻⁴ This phosphorylation lead to a change of p130^{Cas} localization from the cytoplasm to the plasma membrane and possibly to the nucleus.^{3,4}

p130^{Cas} contains an N-terminal SH3 domain, proline-rich regions, followed by a cluster of 15 SH2 binding sites, including several binding sites for the Crk SH2 domain. p130^{Cas} tightly associates with Crk via the SH2 domain of Crk upon tyrosine phosphorylation. The unique structure of p130^{Cas} suggests a role in assembling multiprotein-signaling complexes. p130^{Cas} is tyrosine-phosphorylated in response to a variety of stimuli, many of which affect the assembly of focal adhesions and actin-stress fibers. These stimuli include

integrin-mediated cell adhesion, ligation of B-cell receptor, and stimulation of cells with EGF, PDGF or NGF.⁵⁻⁸ p130^{Cas} is tyrosine-phosphorylated by FAK upon ligation of integrins.⁹⁻¹² Following tyrosine phosphorylation, p130^{Cas} binds to a number of SH2 domain-containing proteins, such as Crk, Nck and SHP-2, and Src kinase, thus recruiting these molecules to focal adhesions,^{9,10} suggesting an important role of p130^{Cas} as a mediator of integrin-mediated signaling.

p130^{Cas}-deficient mice die at embryonic stage, showing marked systemic congestion and growth retardation, such as poor heart development and dilated blood vessels.¹³ In addition, actin stress fibers formation, cell movement and migration are severely impaired in p130^{Cas}-deficient primary fibroblasts,^{13,14} suggesting a crucial role of p130^{Cas} in embryonic development, particularly in cardiovascular development and in cytoskeletal organization.

Reagents

Anti-p130^{Cas} is supplied as an IgG fraction of antiserum in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.

Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working dilution of 1:1,000 is determined by immunoblotting using a whole extract of the human ECV304 endothelial cells, a whole extract of the mouse fibroblasts NIH3T3 cell line and a whole extract of the rat skeletal muscle myoblasts L8 cell line.

The antibody may be used in immunoprecipitation of p130^{Cas} using 3 µg with Protein A-agarose and 10 µg lysate of cultured ECV304 human endothelial cells.

Note: In order to obtain best results and assay sensitivity in different techniques and preparations we recommend determining optimal working dilutions by titration test.

References

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