

## Product Information

### Anti- p130<sup>CAS</sup>

produced in rabbit, IgG fraction of antiserum

Catalog Number **C0354**

#### Product Description

Anti-p130<sup>CAS</sup> is produced in rabbit using a synthetic peptide KFTSQDSPDGQYENSEGG corresponding to the C-terminal region of human p130<sup>CAS</sup> (amino acids 642-659) conjugated to KLH as immunogen. This sequence is identical in mouse and rat p130<sup>CAS</sup> 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<sup>CAS</sup> recognizes human, mouse and rat p130<sup>CAS</sup>. Applications include the detection and localization of p130<sup>CAS</sup> by immunoblotting (130 kDa) and immunoprecipitation. Staining of p130<sup>CAS</sup> in immunoblotting is specifically inhibited with the immunizing peptide.

p130<sup>CAS</sup> (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<sup>CAS</sup> was first identified as a highly tyrosine-phosphorylated protein in both v-Src and v-Crk transformed cells.<sup>1-4</sup> This phosphorylation lead to a change of p130<sup>CAS</sup> localization from the cytoplasm to the plasma membrane and possibly to the nucleus.<sup>3,4</sup>

p130<sup>CAS</sup> 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<sup>CAS</sup> tightly associates with Crk via the SH2 domain of Crk upon tyrosine phosphorylation. The unique structure of p130<sup>CAS</sup> suggests a role in assembling multiprotein-signaling complexes. p130<sup>CAS</sup> 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.<sup>5-8</sup> p130<sup>CAS</sup> is tyrosine-phosphorylated by FAK upon ligation of integrins.<sup>9-12</sup> Following tyrosine phosphorylation, p130<sup>CAS</sup> 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,<sup>9,10</sup> suggesting an important role of p130<sup>CAS</sup> as a mediator of integrin-mediated signaling.

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

#### Reagent

Supplied in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards 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, or 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

**Immunoblotting:** a minimum working dilution of 1:1,000 is determined using a whole extract of the human ECV304 endothelial cells and a whole extract of the rat skeletal muscle myoblasts L8 cell line.

**Immunoprecipitation:** the antibody may be used in immunoprecipitation of p130<sup>CAS</sup> using 3 µg with Protein A-Agarose and 10 µg lysate of cultured ECV304 human endothelial cells or mouse fibroblasts NIH3T3 cell lysate

**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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