full spectrum cell analysis®
eBioscience®

Anti-NF kappa B p50 and p105 Purified

Catalog Number: 14-6732
Also Known As:NFkB, NF kB
RUO: For Research Use Only

Product Information

Contents: Anti-NF kappa B p50 and p105 Purified
REF Catalog Number: 14-6732
Clone: Polyclonal
Host/Isotype: Rabbit IgG

Formulation: 200 µg/ml rabbit polyclonal IgG in PBS, 0.1% sodium azide, 0.2% gelatin.
Temperature Limitation: Store at 2-8°C.
LOT Batch Code: Refer to Vial
Use By: Refer to Vial
Caution, contains Azide

Description

The polyclonal antibody reacts with mouse, rat, and human NFkB p50; the antibody was raised against a peptide mapping to the carboxy terminus of human NFkB p50. Members of the rel/NFkB family of transcription factors are involved in the regulation of cellular responses, such as growth, development, and the inflammatory response. They share a structural motif known as the rel homology region (RHR), the C-terminal one third of which mediates protein dimerization (2, 6, 8). Complexes of p50 (NF-kB1) or p52 (NF-kB2) are generated through the processing of p105 and p100 precursors, respectively. These are usually associated with members of the Rel family (p65, c-Rel, Rel B). The homo- and heterodimer formed through combinations of NFkB/Rel proteins bind distinct kB sites to regulate the transcription of different genes (7, 9). In resting cells, NFkB is retained in the cytoplasm bound to inhibitory proteins of the IkB family. Degradation of IkB proteins occurs with cell activation, via of variety of signals, including inflammatory cytokines and bacterial lipopolysaccharides (LPS) as well as oxidative and fluid mechanical stress. This results in nuclear translocation of NFkB and the transcriptional gene activation of proinflammatory genes (1, 9). It has been suggested that NFkB plays a role in the development of numerous pathological states. Activation of NFkB induces gene programs leading to transcription of factors that promote inflammation, such as leukocyte adhesion molecules, cytokines, and chemokines. It is also thought that there are some substances with possible anti-inflammatory effects that are also NFkB regulated. There is some evidence indicating NFkB as a key factor in the pathophysiology of cardiac ischemia-reperfusion injury as well as the development of insulin dependent Diabetes Mellitus (4, 3).

Applications Reported

Purified anti-mo/hu/rat NFkB p50 and p105 poly has been reported for use in immunoprecipitation, immunoblotting (WB), and immunohistochemical staining.

Applications Tested

Purified anti-mo/hu/rat NFkB p50 and p105 poly has been tested by immunoblotting (WB). (1:400 starting dilution). It is recommended that this antibody be titrated for optimal performance in the assay of interest.

References

1. Lentsch AB, Ward PA. The NFkB/IkappaB system in acute inflammation. Arch Immunol Ther Exp (Warsz). 48(2): 59-63.
2. Hatada EN, Krappmann D, Scheidereit C. NF-kappaB and the innate immune response. Curr Opin Immunol. 2000 Feb; 12(1): 52-8
3. Ho E, Bray TM. Antioxidants, NFkappaB activation, and diabetogenesis. Proc Soc Exp Biol Med. 1999 Dec; 222(3): 205-13.
4. Valen G, Yan ZQ, Hansson GK. Nuclear factor kappa-B and the heart. J Am Coll Cardiol. 2001 Aug; 38(2): 307-14.
5. Chen FE, Kempiak S, Huang DB, Phelps C, Ghosh G. Construction, expression, purification and functional analysis of recombinant NFkappaB p50/p65 heterodimer. Protein Eng. 1999 May; 12(5): 423-8.
6. Sengchanthalangsy LL, Datta S, Huang DB, Anderson E, Braswell EH, Ghosh G. Characterization of the dimer interface of transcription factor NFkappaB p50 homodimer. J Mol Biol. 1999 Jun 18; 289(4): 1029-40.
7. Huang DB, Huxford T, Chen YQ, Ghosh G. The role of DNA in the mechanism of NFkappaB dimer formation: crystal structures of the dimerization domains of the p50 and p65 subunits. Structure. 1997 Nov 15; 5(11): 1427-36.
8. Magnani M, Crinelli R, Bianchi M, Antonelli A. The ubiquitin-dependent proteolytic system and other potential targets for the modulation of nuclear factor-kB (NF-kB). Curr Drug Targets. 2000 Dec; 1(4): 387-99.