

# Product Datasheet

## RelA/NFkB p65 [p Ser276] Inhibitor Peptide Set NBP2-26505

Unit Size: 2 mg

Store at -20C. Avoid freeze-thaw cycles.

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**NBP2-26505**

## RelA/NFkB p65 [p Ser276] Inhibitor Peptide Set

Product Information	
Unit Size	2 mg
Concentration	Lyoph
Storage	Store at -20C. Avoid freeze-thaw cycles.
Reconstitution Instructions	Please contact technical support for detailed reconstitution instructions.
Product Description	
Gene ID	5970
Gene Symbol	RELA
Species	Human, Mouse, Rat, Bovine, Canine, Mammal
Reactivity Notes	Broad: Peptide sequence is 100% conserved across multiple species.
Immunogen	Functions as a p65 decoy through phosphorylation of the Ser276 site on the peptide.
Preparation Method	<p>Preparation of 5 mM Stock Solutions:            PBS* is added directly to the vials to prepare the stock solutions.            Note: Bring the solution to room temperature and quick spin the tubes before opening the caps.            NF-kB p65 (Ser276) Inhibitor Peptide: 1 mg of DRQIKIWFQNRRMKWKKQLRRPSDRELSE)            Add 52.2 ul of PBS* to the vial to make a 5 mM stock solution. Mix by vortexing. Aliquot and store at -20 degree C or -80 degree C. Avoid repeated freeze thawing.</p> <p>Control Peptide: 1 mg of DRQIKIWFQNRRMKWKK            Add 84.8 ul PBS* to the vial. Mix by vortexing. Aliquot and store at 20 degree C or -80 degree C. Avoid repeated freeze thawing.</p> <p>*Recipe for 1X PBS:            1. Dissolve the following in 800ml distilled H2O:            - 8g of NaCl, 0.2g of KCl            - 1.44g of Na2HPO4            - 0.24g of KH2PO4            2. Adjust pH to 7.5 with HCl.            3. Adjust volume to 1L with additional distilled H2O.            4. Sterilize by autoclaving</p>
Inhibitor Family	NFkB
Inhibitor Target	NFkB p65
Inhibitor Content	<p>NF-kB p65 (Ser276) Inhibitor peptide (NBP2-31221): 2 x 1 mg (lyophilized) DRQIKIWFQNRRMKWKKQLRRPSDRELSE (p65 sequence: QLRRPSDRELSE). Molecular weight: 3830</p> <p>Antennapedia Control peptide (NBP2-29334): 2 x 1 mg (lyophilized) DRQIKIWFQNRRMKWKK. Molecular weight: 2361</p>
Product Application Details	
Applications	Functional (Inhibition), In vivo assay, Block/Neutralize
Recommended Dilutions	In vivo assay, Functional (Inhibition) reported in scientific literature (PMID 24737129), Block/Neutralize

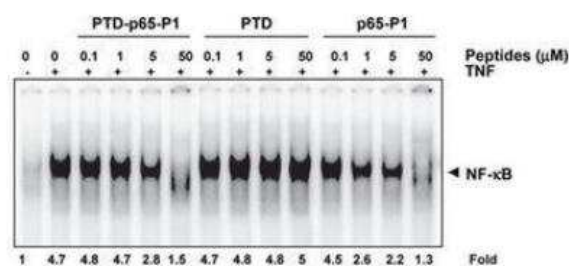
**Application Notes**

Application: Inhibition of DNA binding activity of NF- $\kappa$ B.

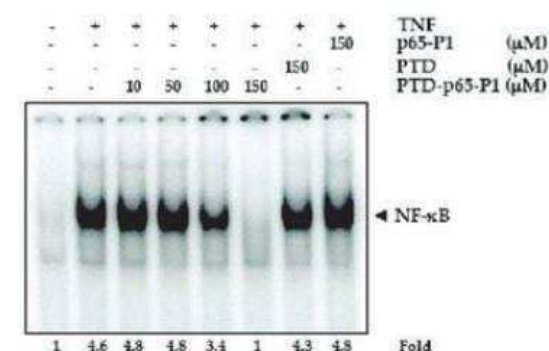
Researchers can study the effect of p65 inhibitor peptide using a variety of methods. This is a general protocol and may need to be optimized. Preincubate cells with appropriate amounts of inhibitory or control peptides for 1 hr and then treat with TNF or other NF- $\kappa$ B activating agents. Prepare nuclear extracts and check for the presence of NF- $\kappa$ B DNA-binding activity by EMSA (Figure 1). Nuclear extracts can be prepared as described by Bharati A, et al. and Takada et al or using nuclear extraction kit. Please refer to Takada et al, 2004 for further details on the use of this inhibitory peptide.

**Images**

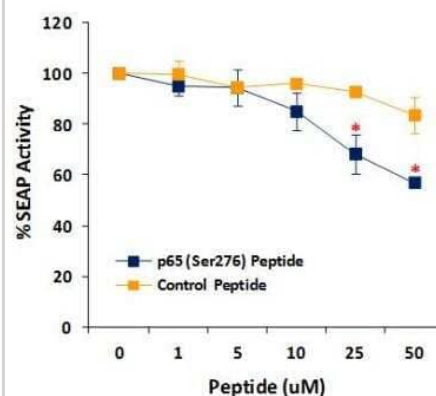
Blocking/Neutralizing: RelA/NF $\kappa$ B p65 [p Ser276] Inhibitor Peptide Set [NBP2-26505] - Effect of various p65-inhibitor peptides on binding of purified recombinant p65 protein to the DNA in vitro. Recombinant p65 protein (100 ng/sample) was incubated for 30 minutes with 50uM of various peptides in 0.025 ml and then assayed for DNA binding activity by EMSA (Please refer to Takada et al, 2004 for further details).



Blocking/Neutralizing: RelA/NF $\kappa$ B p65 [p Ser276] Inhibitor Peptide Set [NBP2-26505] - PTD-p65-P1 peptide inhibits TNF-induced NF- $\kappa$ B activation: KBM-5 cells were incubated with various concentrations of peptides for 1 hr and treated with 0.1nM TNF for 30 min. Nuclear extracts were prepared and NF- $\kappa$ B activation was analyzed by EMSA (Please refer to Takada et al, 2004 for further details).



Functional (Inhibition): RelA/NF $\kappa$ B p65 [p Ser276] Inhibitor Peptide Set [NBP2-26505] - TLR5/NF- $\kappa$ B/SEAPorter HEK 293 (NBP2-26277) cells were plated in 96-well plates at  $5 \times 10^4$  cells/well for 16 h. Cells were preincubated with different concentrations (0, 1, 5, 10, 25 and 50 uM) of Inhibitory Peptide (NBP2-26505) and Control Peptide (NBP2-29334) for 1 h. Cells were then stimulated with 1 ng/ml Flagellin (NBP2-25289) for 24 h. Secreted alkaline phosphatase (SEAP) was analyzed using SEAPorter Assay Kit (NBP2-25285). \* $p < 0.05$  versus control peptide at the corresponding concentrations (Mann-Whitney U test).



## Publications

DLC1 suppresses NF-kappaB activity in prostate cancer cells due to its stabilizing effect on adherens junctions. Tripathi V, Popescu NC, Zimonjic DB Springerplus [PMID: 24683532] (Func, Human)

Yu J, Berga SL, Zou W et al. IL-1B Inhibits Connexin 43 and Disrupts Decidualization of Human Endometrial Stromal Cells through ERK1/2 and p38 MAP Kinase Endocrinology 2017-09-11 [PMID: 28938400] (B/N, Human)

Chen Jy, Lai Ys, Tsai Hj et al. The oncometabolite R-2-hydroxyglutarate activates NF-kB-dependent tumor-promoting stromal niche for acute myeloid leukemia cells. Sci Rep 2016-08-31 [PMID: 27577048]

Majewski Pawel M, Thurston Robert D, Ramalingam Rajalakshmy et al. Cooperative role of NF-{kappa}B and poly (ADP-ribose) polymerase 1 (PARP-1) in the TNF-induced inhibition of PHEX expression in osteoblasts. J Biol Chem. 2010-11-05 [PMID: 20817730]

Balasubramani Anand, Shibata Yoichiro, Crawford Gregory E et al. Modular utilization of distal cis-regulatory elements controls Ifng gene expression in T cells activated by distinct stimuli. Immunity. 2010-07-23 [PMID: 20643337] (Mouse)

Bhooshan Neha, Giger Maryellen, Lan Li et al. Combined use of T2-weighted MRI and T1-weighted dynamic contrast-enhanced MRI in the automated analysis of breast lesions. Magn Reson Med. 2011-08-01 [PMID: 21523818] (Human)

Hutcherson Ja, Bagaitkar J, Nagano K et al. Porphyromonas gingivalis RagB is a pro-inflammatory STAT4 agonist. Mol Oral Microbiol. 2014-11-21 [PMID: 25418117]

Basson MD, Zeng B, Downey C et al. Increased extracellular pressure stimulates tumor proliferation by a mechanosensitive calcium channel and PKC-b. Molecular Oncology. 2014-10-23 [PMID: 25454347] (In vitro, Func, B/N)

Lowe JM, Menendez D, Bushel PR et al. p53 and NF-kB Coregulate Proinflammatory Gene Responses in Human Macrophages. Cancer Res. 2014-04-15 [PMID: 24737129] (Forced Spectroscopy, Human)

Details:  
Primary macrophages, Fig S2B.

Poylin V, Fareed MU, O'Neal P et al. The NF-kappaB inhibitor curcumin blocks sepsis-induced muscle proteolysis. Mediators Inflamm. 2008-01-01 [PMID: 18389075]

Details:  
Incubated muscles from septic rats, muscles were incubated in the presence of 100 um inhibitory peptide or 100 um control peptide. Treatment of the muscles with the inhibitory peptide for 2 hr resulted in an ~30% reduction of protein breakdown compared to

Wang H, Brown J, Gu Z et al. Convergence of the mammalian target of rapamycin complex 1- and glycogen synthase kinase 3-B-signaling pathways regulates the innate inflammatory response. J Immunol. 2011-05-01 [PMID: 21422248] (WB, Human)

Details:  
WB: Human PBMC's were pretreated with the NF-kB p65 inhibitory peptide then treated with Rapamycin in the presence or absence of LPS, Fig 5B.

Chastre E, Abdessamad M, Kruglov A et al. TRIP6, a novel molecular partner of the MAGI-1 scaffolding molecule, promotes invasiveness. FASEB J. 2009-03-01 [PMID: 19017743]

Details:  
HeLa and HEK293 cell lysates were transiently transfected with Flag labeled MAG-1b.

More publications at <http://www.novusbio.com/NBP2-26505>

## Procedures

### MSDS (NBP2-26505)

#### Hazard Information

Chemical Name: Non hazardous products

Chemical Formula: N/A

CAS Number: N/A

EEC-No: N/A

#### Hazard Identification

None:

#### First Aid Measures

Eye Contact: None

Skin Contact: None

Inhalation: None

Ingestion: None

#### Accidental Release Measures

This product either does not contain hazardous constituents or the concentration of all chemical constituents are below the regulatory threshold limits described by Occupational Safety Health Administration Hazard Communication Standard 29 CFR 1910.1200 and the European Directive 91/155/EEC. 88/379/EEC, and 67/546/EEC.

#### Handling and Storage

Exposure Controls / Personal Protection

Other Precautions: None

#### Physical and Chemical Properties

Form: N/A

Color: N/A

Odor: N/A

Melting Point: N/A

Boiling Temperature: N/A

Density: N/A

Vapor Pressure: N/A

Solubility in Water: N/A

Flash Point: N/A

Explosion limits: N/A

Ignition Temperature: N/A





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### **Products Related to NBP2-26505**

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NBP2-24987-5ug	Recombinant Human RelA/NFkB p65 Protein
210-TA-005	TNF-alpha [Unconjugated]
NBP2-29661-1Kit	Human, Mouse, Rat RelA/NFkB p65 ELISA Kit (Colorimetric)
M6000B-1	IL-6 [HRP]

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Inhibitors are guaranteed for 1 year from date of receipt.

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