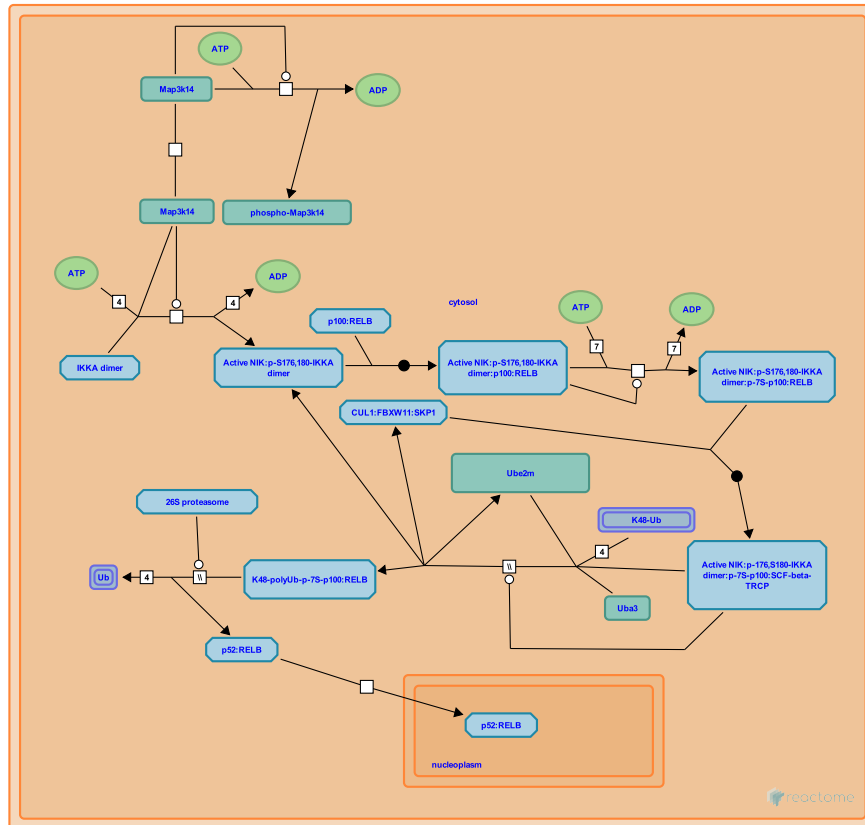


NIK-->noncanonical NF-kB signaling



European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

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- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 75

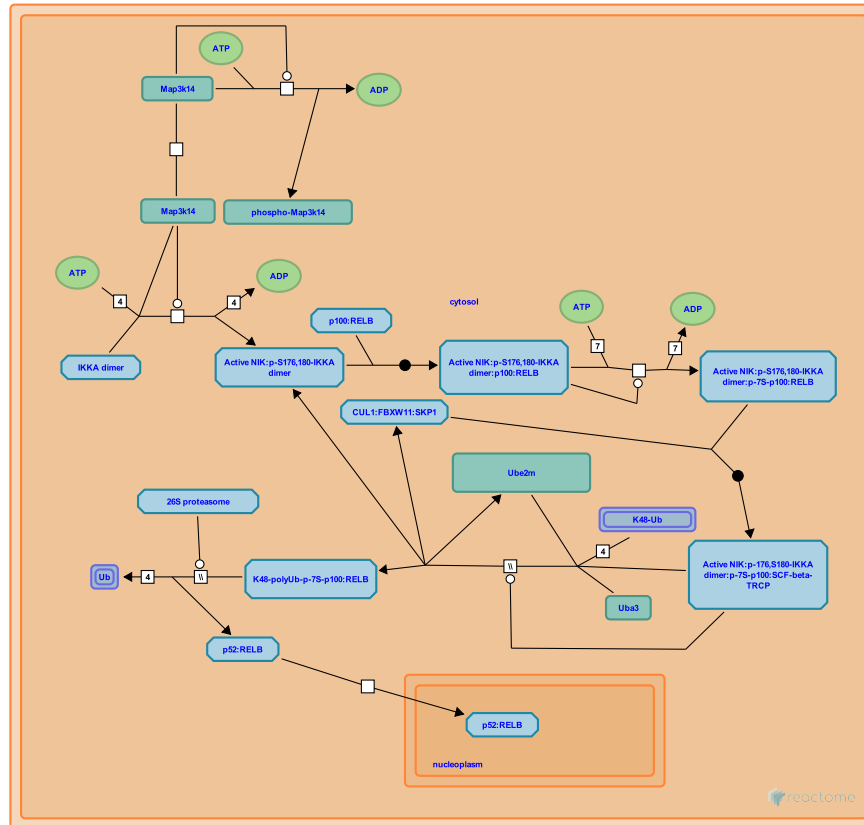
This document contains 1 pathway and 9 reactions ([see Table of Contents](#))

NIK-->noncanonical NF-kB signaling ↗

Stable identifier: R-RNO-5676590

Compartments: cytosol, nucleoplasm

Inferred from: NIK-->noncanonical NF-kB signaling (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Activation of NIK [↗](#)

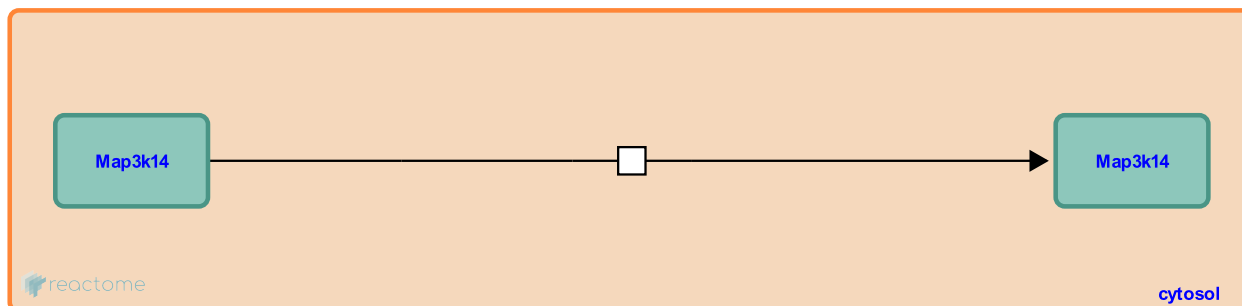
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607721

Type: transition

Compartments: cytosol

Inferred from: [Activation of NIK \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

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NIK autophosphorylates on T559 ↗

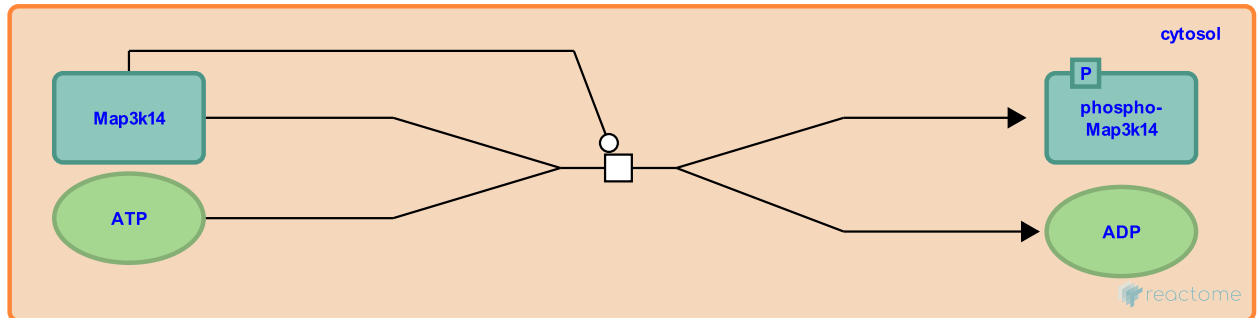
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5668545

Type: transition

Compartments: cytosol

Inferred from: NIK autophosphorylates on T559 (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

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Active NIK phosphorylates IKKA dimer ↗

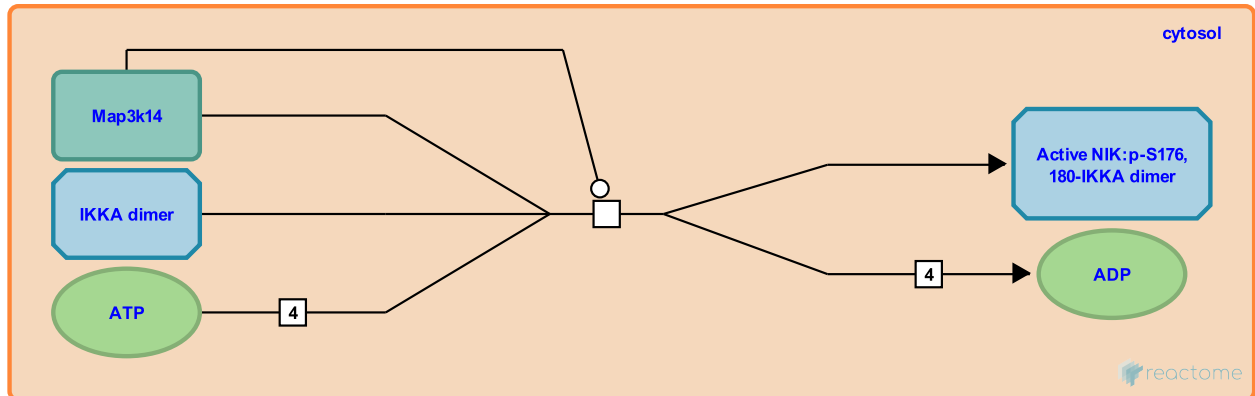
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607722

Type: transition

Compartments: cytosol

Inferred from: Active NIK phosphorylates IKKA dimer (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

p100:RELB binds active NIK:p-IKKA dimer ↗

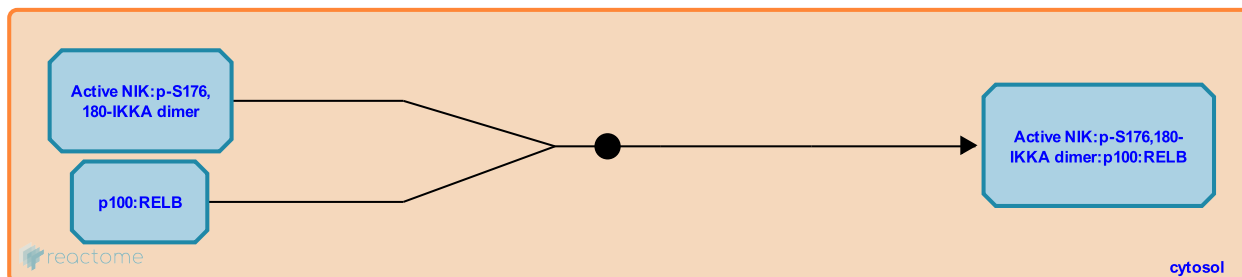
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607720

Type: binding

Compartments: cytosol

Inferred from: p100:RELB binds active NIK:p-IKKA dimer (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Active NIK:p-S176,180-IKKA dimer phosphorylates p100:RELB ↗

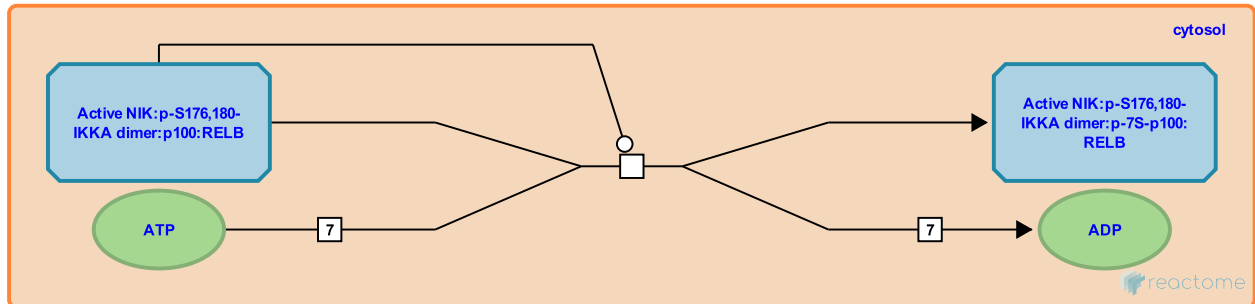
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607726

Type: transition

Compartments: cytosol

Inferred from: Active NIK:p-S176,180-IKKA dimer phosphorylates p100:RELB (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

SCF-beta-TRCP binds p-7S-p100 in active NIK:p-S176,180-IKKA dimer:p-7S-p100:RELB [↗](#)

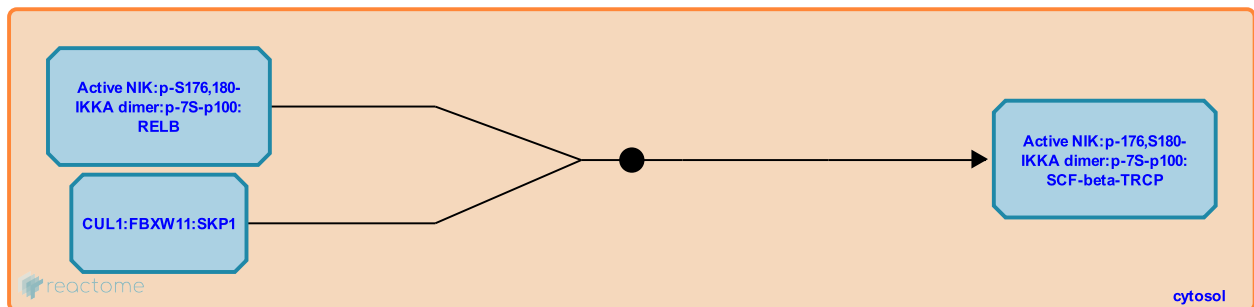
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607723

Type: binding

Compartments: cytosol

Inferred from: SCF-beta-TRCP binds p-7S-p100 in active NIK:p-S176,180-IKKA dimer:p-7S-p100:RELB (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

SCF-beta-TRCP ubiquitinates p-7S-p100:RELB in active NIK:p-176,S180-IKKA dimer:p-7S-p100:SCF-beta-TRCP ↗

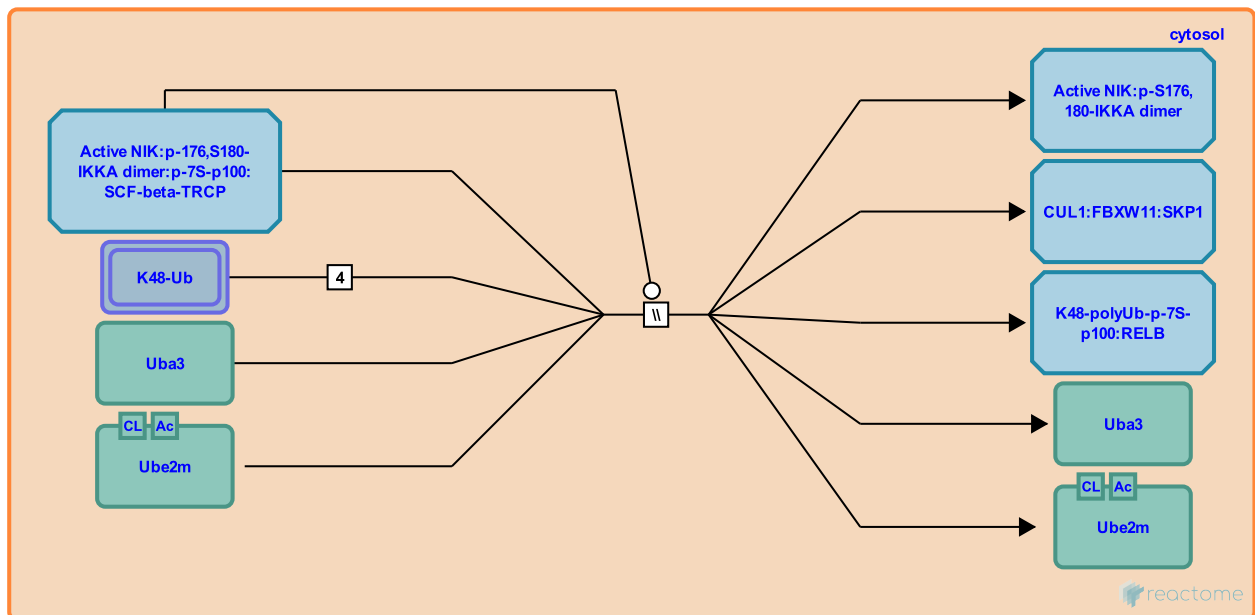
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607725

Type: omitted

Compartments: cytosol

Inferred from: SCF-beta-TRCP ubiquitinates p-7S-p100:RELB in active NIK:p-176,S180-IKKA dimer:p-7S-p100:SCF-beta-TRCP (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

26S proteasome processes p-7S-p100:RELB to form p52:RELB ↗

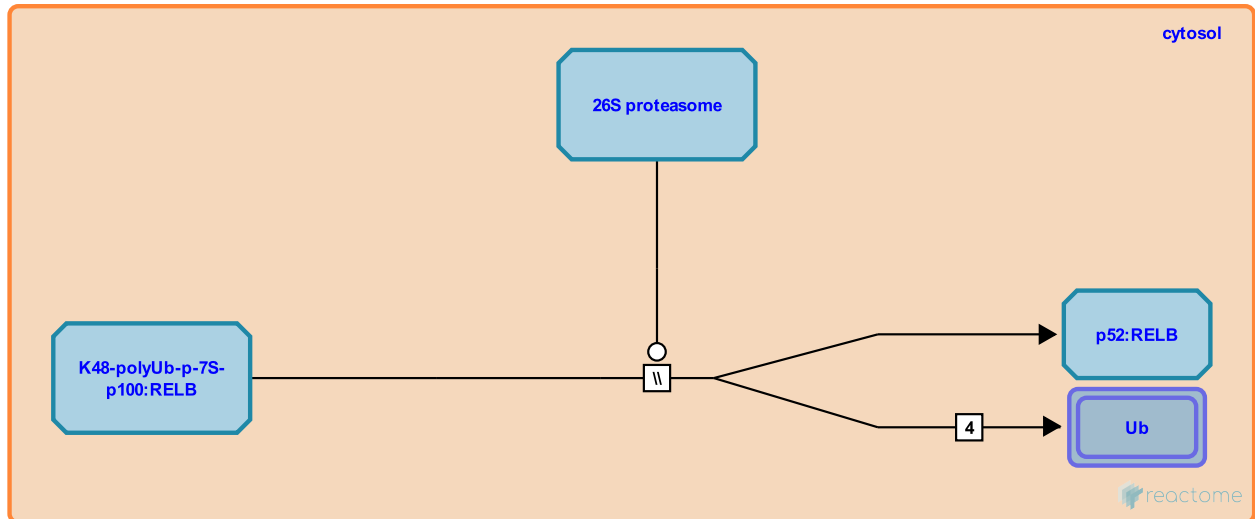
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607731

Type: omitted

Compartments: cytosol

Inferred from: 26S proteasome processes p-7S-p100:RELB to form p52:RELB (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

p52:RELB translocates from cytosol to nucleus ↗

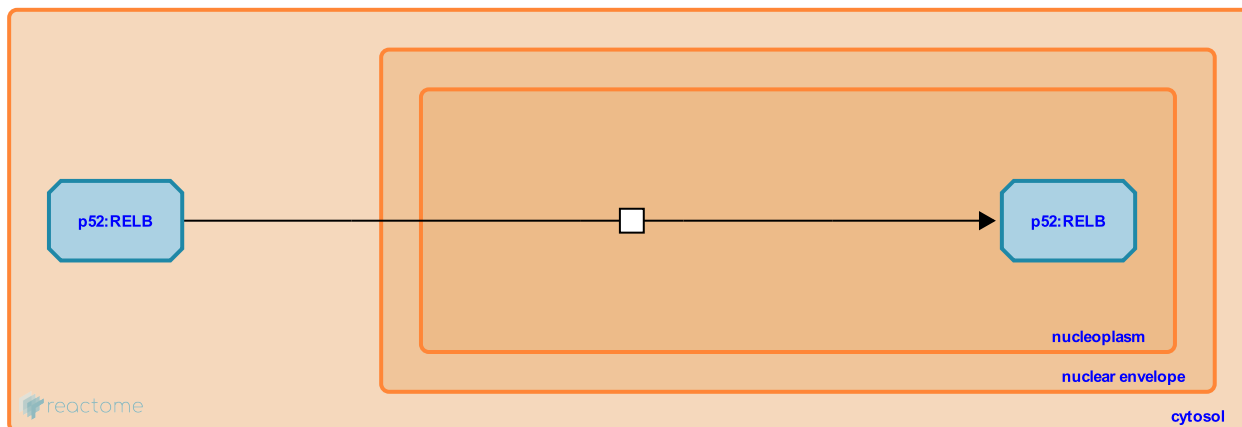
Location: NIK-->noncanonical NF-kB signaling

Stable identifier: R-RNO-5607741

Type: transition

Compartments: nucleoplasm, cytosol

Inferred from: p52:RELB translocates from cytosol to nucleus (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Table of Contents

Introduction	1
⚡ NIK-->noncanonical NF-kB signaling	2
➤ Activation of NIK	3
➤ NIK autophosphorylates on T559	4
➤ Active NIK phosphorylates IKKA dimer	5
➤ p100:RELB binds active NIK:p-IKKA dimer	6
➤ Active NIK:p-S176,180-IKKA dimer phosphorylates p100:RELB	7
➤ SCF-beta-TRCP binds p-7S-p100 in active NIK:p-S176,180-IKKA dimer:p-7S-p100:RELB	8
⚡ SCF-beta-TRCP ubiquitinates p-7S-p100:RELB in active NIK:p-176,S180-IKKA dimer:p-7S-p100:SCF-beta-TRCP	9
⚡ 26S proteasome processes p-7S-p100:RELB to form p52:RELB	10
➤ p52:RELB translocates from cytosol to nucleus	11
Table of Contents	12