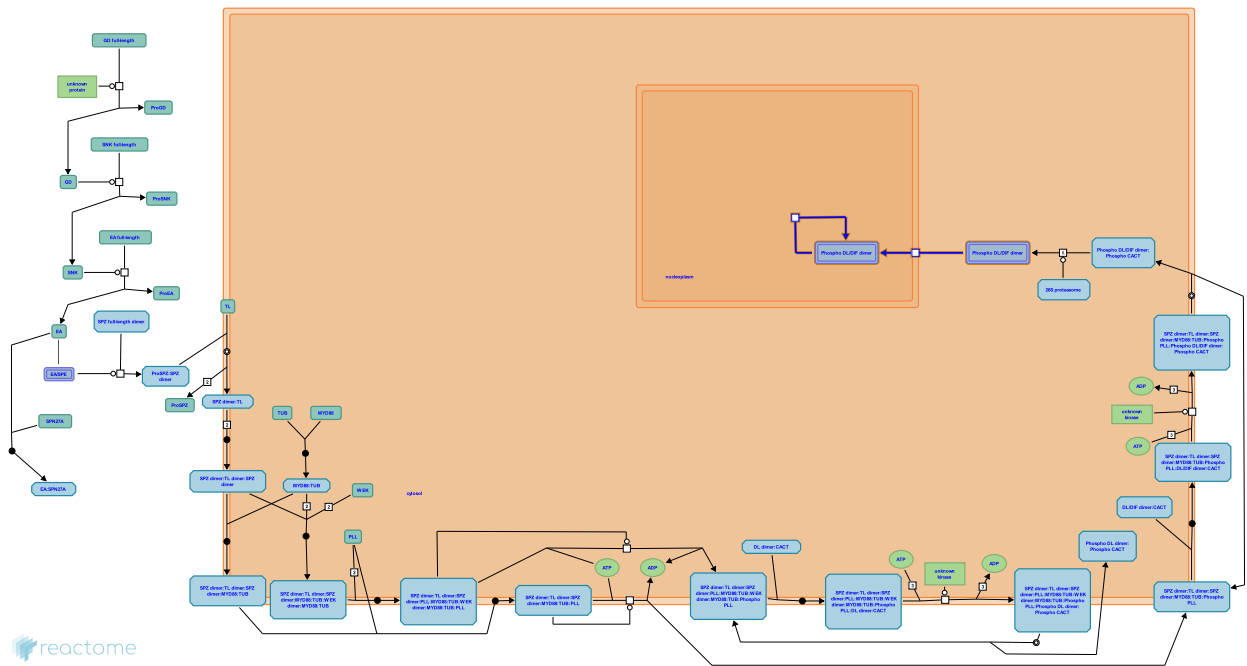


Transcriptional activation by phosphorylated DL/DIF dimer



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This is just an excerpt of a full-length report for this pathway. To access the complete report, please download it at the [Reactome Textbook](https://reactome.org/textbook/).

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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.

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Literature references

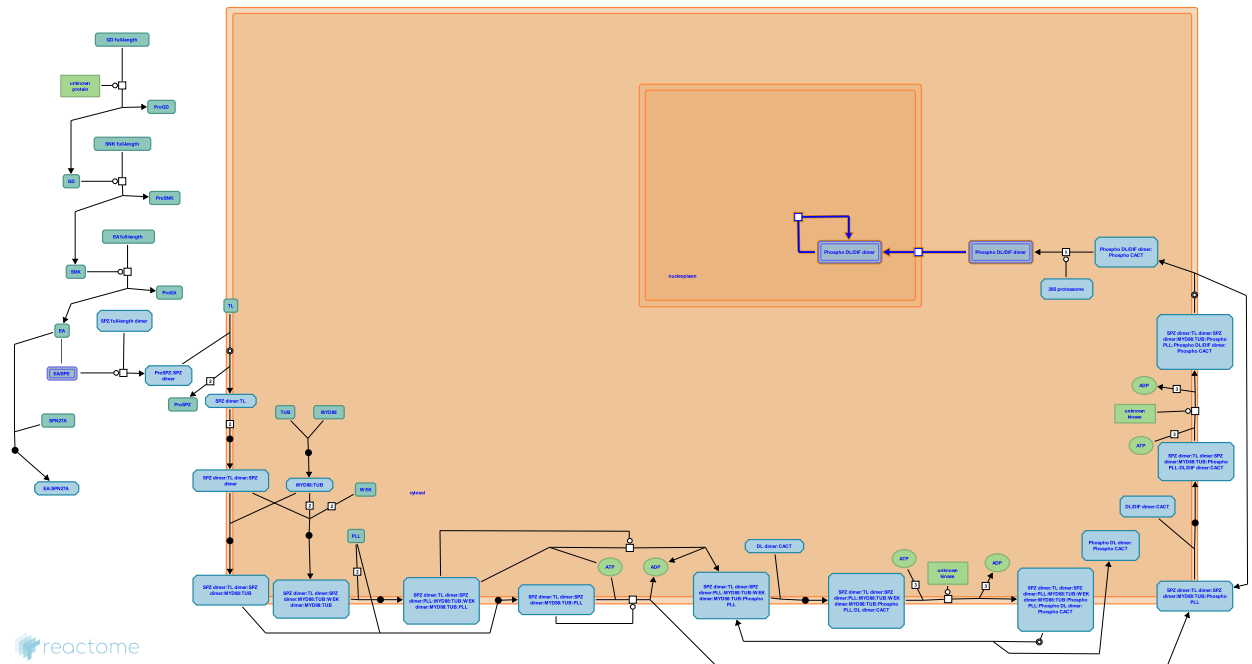
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Reactome database release: 88

This document contains 1 pathway and 2 reactions ([see Table of Contents](#))

Transcriptional activation by phosphorylated DL/DIF dimer ↗

Stable identifier: R-DME-209400



Spatzle (SPZ) dimer binding leads to Toll (TL) receptor homodimerisation and activation.

Literature references

Lemaitre, B. (2004). The road to Toll. *Nat Rev Immunol*, 4, 521-7. ↗

Leclerc, V., Reichhart, JM. (2004). The immune response of *Drosophila melanogaster*. *Immunol Rev*, 198, 59-71. ↗

Editions

2007-07-11	Authored	Williams, MG.
2007-07-12	Edited	Williams, MG.
2008-06-20	Reviewed	Lemaitre, B., Silverman, N.

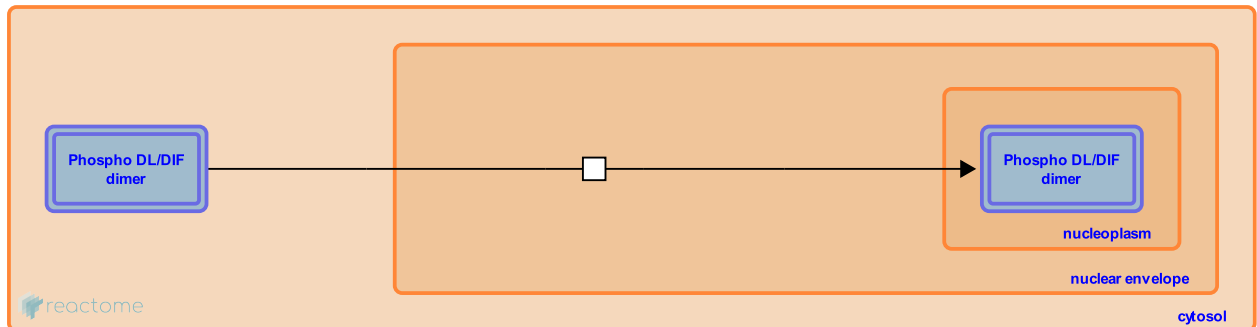
Phosphorylated DL/DIF dimer transports from the cytosol to the nucleus ↗

Location: [Transcriptional activation by phosphorylated DL/DIF dimer](#)

Stable identifier: R-DME-209295

Type: transition

Compartments: nuclear envelope



The phosphorylated Dorsal/Dif (DL/DIF) homodimer, now free from its cytoplasmic anchor, Cactus (CACT), is imported to the nucleus. Phosphorylation of the DL/DIF homodimer is important for its nuclear localisation.

Followed by: [Phosphorylated DL/DIF dimer activates transcription](#)

Literature references

Meister, M., Lemaitre, B., Georgel, P., Steward, R., Govind, S., Reichhart, JM. et al. (1995). Functional analysis and regulation of nuclear import of dorsal during the immune response in *Drosophila*. *EMBO J*, 14, 536-45. ↗

Huang, LH., Steward, R., Drier, EA. (1999). Nuclear import of the *Drosophila* Rel protein Dorsal is regulated by phosphorylation. *Genes Dev*, 13, 556-68. ↗

Steward, R., Govind, S., Drier, EA. (2000). Cactus-independent regulation of Dorsal nuclear import by the ventral signal. *Curr Biol*, 10, 23-6. ↗

Editions

2007-07-11	Authored	Williams, MG.
2008-06-20	Reviewed	Lemaitre, B., Silverman, N.
2014-05-20	Edited	Williams, MG.

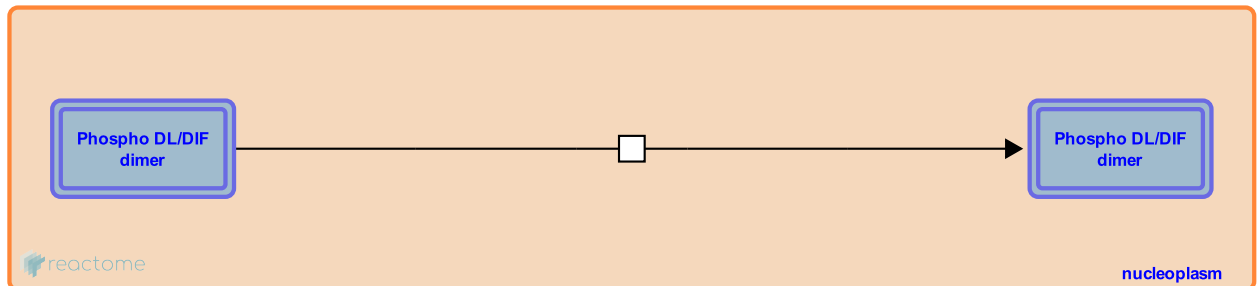
Phosphorylated DL/DIF dimer activates transcription ↗

Location: [Transcriptional activation by phosphorylated DL/DIF dimer](#)

Stable identifier: R-DME-209218

Type: transition

Compartments: nucleoplasm



In the nucleus, phosphorylated Dorsal/Dif (DL/DIF) homodimer binds to its target genes and activates transcription.

Preceded by: [Phosphorylated DL/DIF dimer transports from the cytosol to the nucleus](#)

Literature references

- Meister, M., Lemaitre, B., Georgel, P., Steward, R., Govind, S., Reichhart, JM. et al. (1995). Functional analysis and regulation of nuclear import of dorsal during the immune response in *Drosophila*. *EMBO J*, 14, 536-45. ↗
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Editions

2007-07-11	Authored	Williams, MG.
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