



## 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

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)
- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
- 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: 88

This document contains 2 pathways and 7 reactions ([see Table of Contents](#))



## Keratin type I binds keratin type II ↗

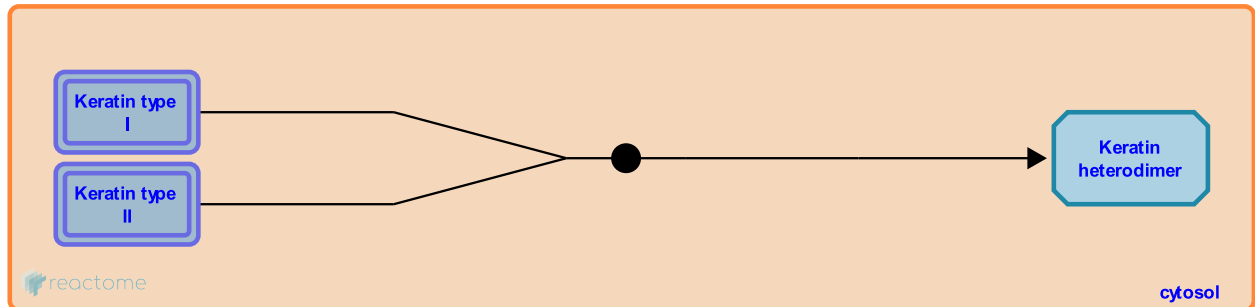
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6805546

**Type:** binding

**Compartments:** cytosol

**Inferred from:** [Keratin type I binds keratin type II \(Homo sapiens\)](#)



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.](#) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

**Followed by:** [Keratin type I/type II heterodimers form tetramers](#)

## Keratin type I/type II heterodimers form tetramers ↗

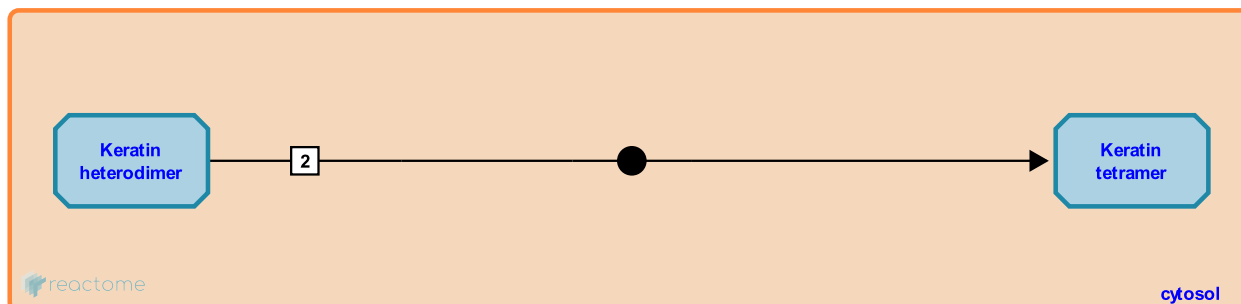
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6805573

**Type:** binding

**Compartments:** cytosol

**Inferred from:** [Keratin type I/type II heterodimers form tetramers \(Homo sapiens\)](#)



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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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**Preceded by:** [Keratin type I binds keratin type II](#)

**Followed by:** [Keratin filament formation](#), [Keratin tetramers bind to form unit length filaments](#)

## Keratin tetramers bind to form unit length filaments ↗

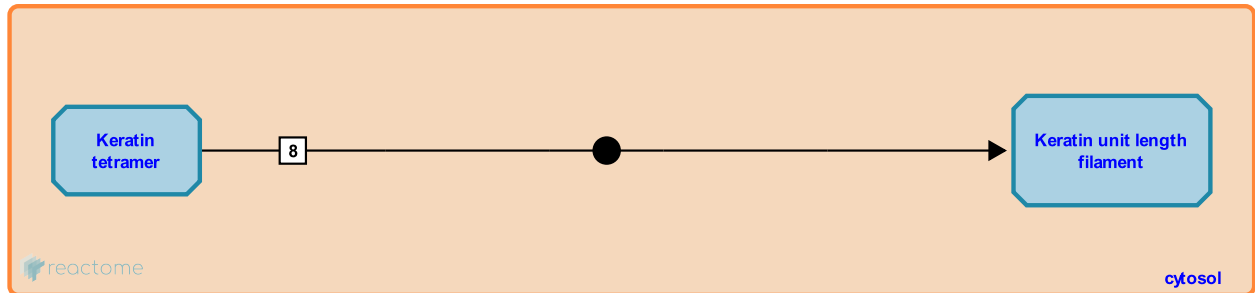
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6806613

**Type:** binding

**Compartments:** cytosol

**Inferred from:** [Keratin tetramers bind to form unit length filaments \(Homo sapiens\)](#)



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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**Preceded by:** [Keratin type I/type II heterodimers form tetramers](#)

**Followed by:** [Keratin filament formation](#)

## Keratin filament formation ↗

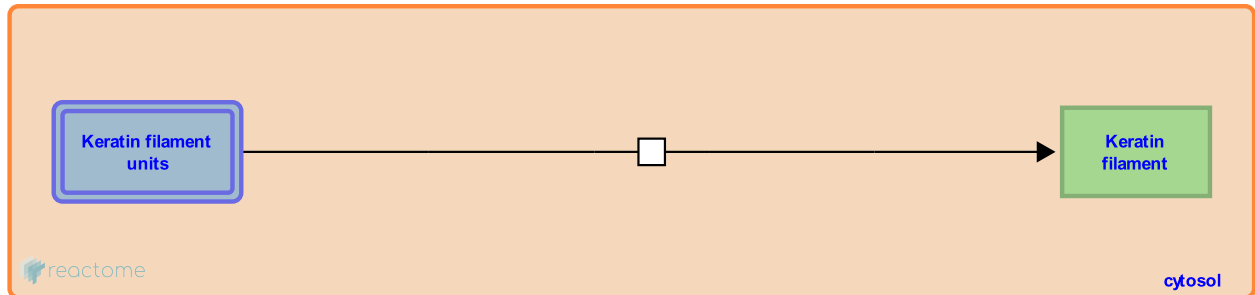
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6806610

**Type:** transition

**Compartments:** cytosol

**Inferred from:** [Keratin filament formation \(Homo sapiens\)](#)



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.](#) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

**Preceded by:** [Keratin type I/type II heterodimers form tetramers](#), [Keratin tetramers bind to form unit length filaments](#)

**Followed by:** [Formation of tonofilament bundles](#)

## Formation of tonofilament bundles ↗

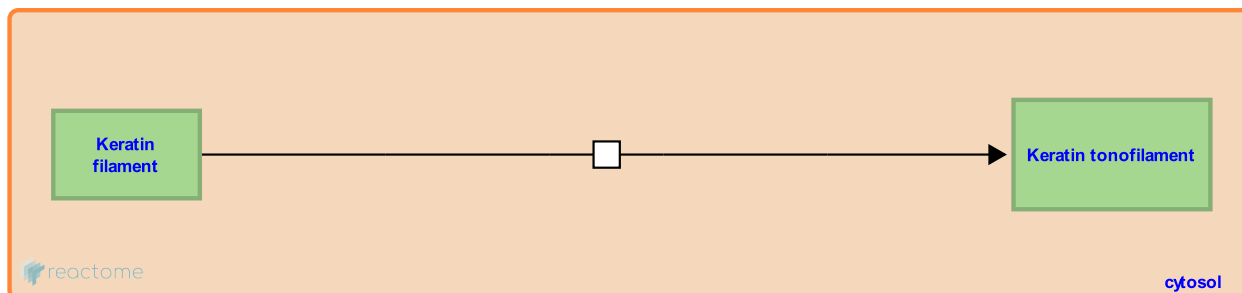
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6806629

**Type:** transition

**Compartments:** cytosol

**Inferred from:** [Formation of tonofilament bundles \(Homo sapiens\)](#)



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.](#) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

**Preceded by:** [Keratin filament formation](#)

**Followed by:** [Formation of hair keratin fibres](#), [Keratin filaments bind cell-cell adhesion complexes](#)



## Keratin filaments bind cell-cell adhesion complexes ↗

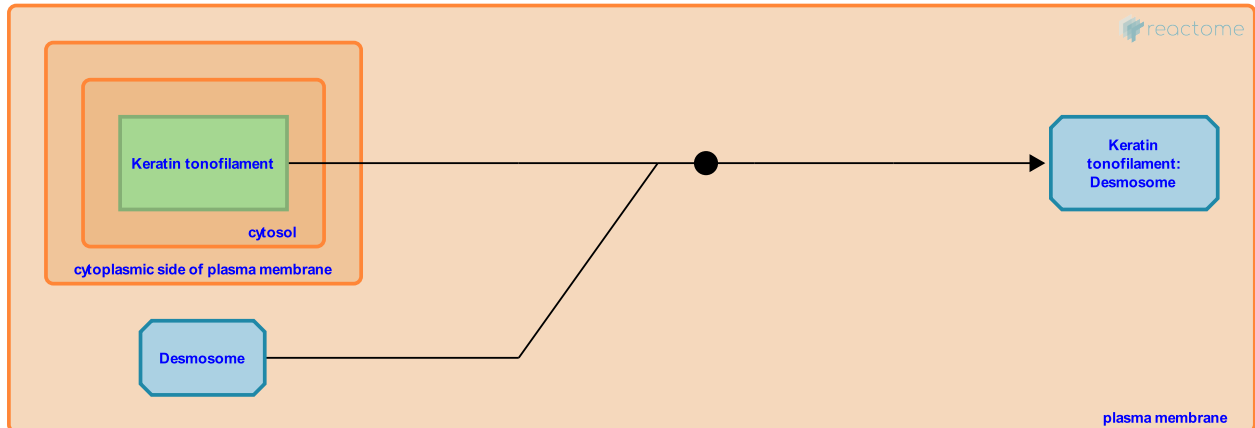
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6809393

**Type:** binding

**Compartments:** plasma membrane, cytosol

**Inferred from:** [Keratin filaments bind cell-cell adhesion complexes \(Homo sapiens\)](#)



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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**Preceded by:** [Formation of tonofilament bundles](#)



## Formation of hair keratin fibres ↗

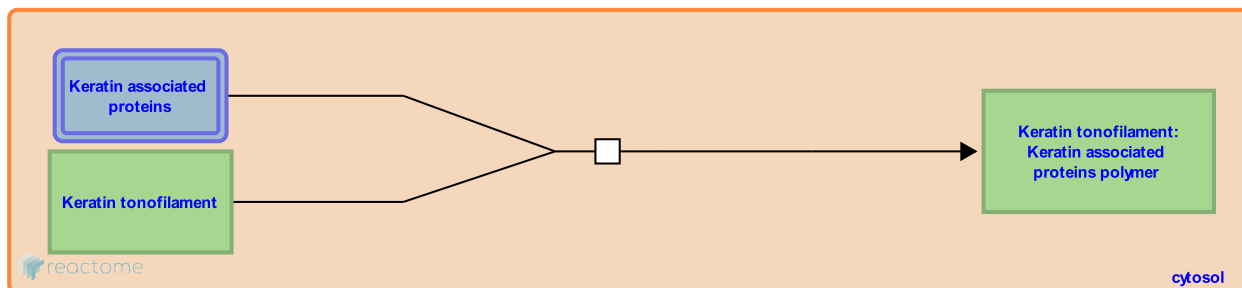
**Location:** [Keratinization](#)

**Stable identifier:** R-SSC-6809663

**Type:** transition

**Compartments:** cytosol

**Inferred from:** [Formation of hair keratin fibres \(Homo sapiens\)](#)



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.](#) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

**Preceded by:** [Formation of tonofilament bundles](#)

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