Keratin tetramers bind to form unit length filaments

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20/05/2024

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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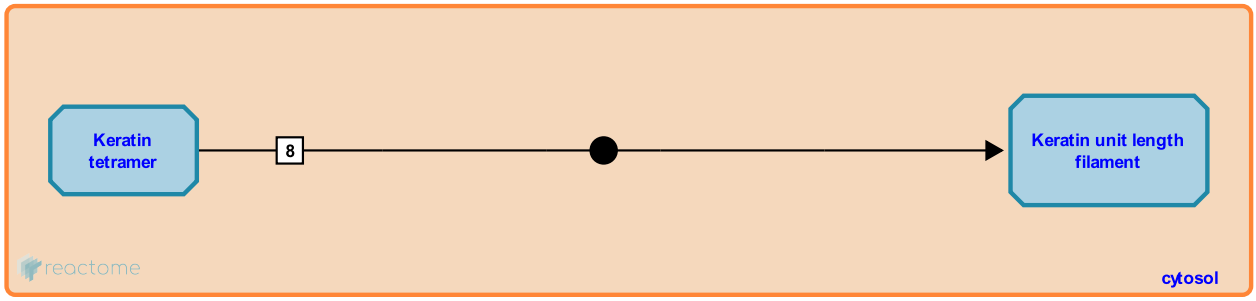
Stable identifier: R-HSA-6806613

Type: binding

Compartments: cytosol



Mammalian keratins form soluble short full-width filaments called unit length full-width particles (Parry et al. 2007), unit length filaments (ULFs) (Herrmann et al. 2002) or intermediate filament-like particles (Steinert 1991). These are formed by the lateral association of tetramers. ULFs are ~ 70 nm long, with a diameter of ~20 nm. The diameter shrinks during formation of filaments (Parry et al. 2001). X-ray diffraction suggests that ULFs are tube-like structures formed from eight tetramers in non-cornified cells (Parry et al. 2007). In cornified hair cells, the tetramers are thought to be arranged in a seven-member ring, with an eighth in the centre (Parry et al. 2007).

Literature references

Parry, DA., Strelkov, SV., Aebi, U., Burkhard, P., Herrmann, H. (2007). Towards a molecular description of intermediate filament structure and assembly. *Exp. Cell Res., 313*, 2204-16. ↗

Eichner, R., Kahn, M. (1990). Differential extraction of keratin subunits and filaments from normal human epidermis. *J. Cell Biol., 110*, 1149-68. ↗

Editions

2016-03-10	Authored	Jupe, S.
2016-08-10	Edited	Jupe, S.
2016-08-12	Reviewed	Blumenberg, M.