

# pheomelanin formation

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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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- 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. [↗](#)
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Reactome database release: 88

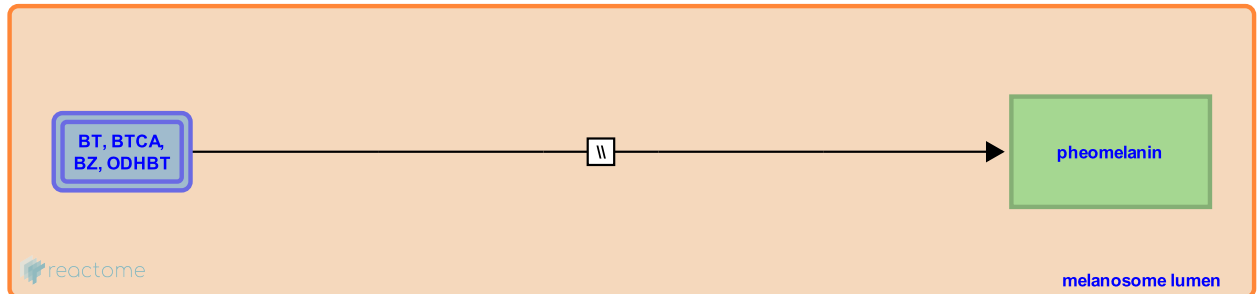
This document contains 1 reaction ([see Table of Contents](#))

## pheomelanin formation [↗](#)

**Stable identifier:** R-HSA-5662891

**Type:** omitted

**Compartments:** melanosome lumen



The last stage of pheomelanogenesis is the oxidative polymerization of BT, BTCA, and the products of secondary modifications of the benzothiazine moieties of these to form pheomelanin. Several dimeric and trimeric intermediates have been identified (Napolitano et al. 2001) but it is unclear whether these are major components of natural pheomelanin pigments. Most studies have used powerful chemical oxidants (Di Donato et al. 2002, Napolitano et al. 2008), which may lead to a pheomelanogenesis process that differs from the in vivo process (Wakamatsu et al. 2008).

### Literature references

Wakamatsu, K., Ito, S., Ohtara, K. (2009). Chemical analysis of late stages of pheomelanogenesis: conversion of dihydrobenzothiazine to a benzothiazole structure. *Pigment Cell Melanoma Res*, 22, 474-86. [↗](#)

### Editions

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