Coenzyme Q

Under construction

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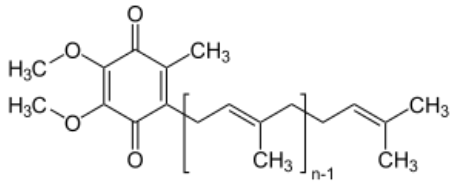
Last update: Friday, 17 Nov 2023 at 11:53 am.

This article has been translated from WikiSkripta; ready for the **editor's review**.

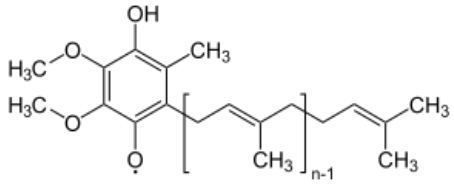
Coenzyme Q (also ubiquinone, coenzyme Q10, CoQ) belongs to oxidoreductase coenzymes. It is part of the **mitochondrial respiratory chain**. It contains an isoprenoid side chain and therefore belongs to the isoprenoids. It can contain a different number of isoprene units in the side chain (often 10 → therefore coenzyme Q10).



Coenzyme Q, ubiquinone

Coenzyme Q and its role in the respiratory chain

The quinone structure of ``ubiquinone (Q) *can accept one electron and one proton and change to ``semiquinone (QH·)*. By accepting an additional electron and proton, semiquinone produces hydroquinone (*ubiquinol, QH_2*).[1] Thus, ubiquinone (Q) can accept 2 electrons and 2 protons and ubiquinol (QH_2) is formed from it.



Coenzyme Q, semiquinone

Thanks to the isoprene side chain, coenzyme Q is anchored in the cell membrane, where it serves as a **mobile electron carrier**'. All 3 forms of coenzyme Q mentioned above serve to transfer electrons from complex I (or II) to complex III.

File:Ubihydroquinone.svg
Coenzyme Q, ubiquinol

🔎 *For more information see Electron Transport Chain.*

Links

Related Articles

- Coenzymes
- Breathing Chain
- Oxido-reduction enzymes

References

1. MATOUŠ, Bohuslav. *Basics of medical chemistry and biochemistry.* 1. edition. Prague : Galen, 2010. 540 pp. ISBN 978-80-7262-702-8.

References

- MATOUŠ, Bohuslav, et al. *Basics of medical chemistry and biochemistry.* 1. edition. Prague : Galen, 2010. 540 pp. ISBN 978-80-7262-702-8.