



## Melatonin: The watchdog of villous trophoblast homeostasis against hypoxia/reoxygenation-induced oxidative stress and apoptosis

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<https://doi.org/10.1016/j.mce.2013.07.010>

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### Highlights

- Melatonin protects human villous trophoblast against hypoxia/reoxygenation-induced damage.
- Melatonin inhibits oxidative stress and mitochondrial-dependent apoptosis in trophoblast cells.
- Melatonin may be potentially used to prevent pregnancy complications involving villous trophoblast alterations.

### Abstract

Human placenta produces melatonin and expresses its receptors. We propose that melatonin, an antioxidant, protects the human placenta against hypoxia/reoxygenation (H/R)-induced damage. Primary term villous cytotrophoblasts were cultured under