

# Abstract

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## **Selenium and iodine deficiencies and selenoprotein function.**

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**BACKGROUND:** This paper reviews some recent findings on the interactions between selenium deficiency and iodine deficiency.

**DISCUSSION:** Both micronutrients can control the levels of selenoprotein mRNAs, particularly in the thyroid and brain. When selenium and iodine supplies are limiting the compensatory mechanisms work to minimise adverse effects on thyroid hormone metabolism and thus neurological development.

**CONCLUSION:** The mechanisms for regulation of selenoproteins in selenium and iodine deficiency are however very tissue-specific. For example, unlike the brain and thyroid, brown adipose tissue is unable to retain selenoproteins in selenium and iodine deficiency and is therefore at greater risk from injurious effects of the deficiencies.

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