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Keywords: selenium, selenoproteins, review, function

Introduction

Since the first TEMA meeting in 1969 there have been several major advances in the understanding of the biochemistry and function of selenium (Se). Glutathione peroxidase was the first selenoprotein to be identified, in 1973, and contains stoichiometric amounts of selenium (Rotruck et al. 1973). Subsequently, in vivo labelling experiments with ^{75}Se have indicated there may be upwards of 30 selenoproteins in mammalian systems (Wu et al. 1995, Behne et al. 1988, 1995, Evenson and Sunde 1988). On the basis of the ratio of abundant and non-abundant proteins in the genome it has been suggested that there may actually be up to 100 selenoproteins (Burk and Hill 1993). Thus, the identification and characterisation of many of these selenoproteins has provided a framework for major advances in our understanding of selenium biochemistry and function. This review will consider some of these advances in the context of my own research.