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Localization patterns of phospholipid hydroperoxide glutathione peroxidase mRNA in Mouse Organs

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Selenium (Se) is an essential micronutrient for mammals and its biological functions are mediated by selenoprotein. In tissues, Se is incorporated into the selenoprotein by recognition of the UGA codon as a stop codon for selenoprotein. Phospholipid hydroperoxide glutathione peroxidase (PHGPx) is an antioxidant selenoprotein that belongs to the superfamily of selenium-dependent peroxidase. PHGPx interacts directly with peroxidized phospholipid, cholesterol, and cholesteryl ester in biomembrane. In this study, to determine the localization patterns of PHGPx mRNA in all organs of 9 week-old mice, we performed RT-PCR and *in situ* hybridization analyses using digoxigenin-labeled cRNA probes for PHGPx and observed its distribution patterns with a confocal laser scanning microscope.

According to the analyses, PHGPx mRNAs were expressed in all tissues examined : brain, pituitary gland, thyroid gland, thymus, heart, lung, liver, spleen, kidney, adrenal gland, testis, epididymis, prostate gland, pancreas, stomach, duodenum, jejunum, ileum, colon, and rectum. These findings suggest that PHGPx may play a general role in antioxidant function in tissues.