

**MASS SPECTROMETRIC EVIDENCE TO SUPPORT THE OCCURRENCE OF THE OX-AA  
DOPA AND O-TYROSINE IN CATARACT LENS PROTEIN SAMPLES.**

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Cataract is the major cause of blindness; the most common form is age-related, or senile, cataract. It has been shown that nuclear cataract is associated with the extensive hydroxylation of protein-bound amino acid residues, which increases with the development of cataract by up to 15-fold in the case of DOPA (3,4-dihydroxyphenylalanine). An established HPLC method has been applied to the quantitative study of these oxidised amino acids. To confirm the HPLC results in terms of the chemical characterization, a MS data to support the findings was required. Among oxidised aromatic amino acids, DOPA and o-Tyrosine were chosen for MS study for various reasons (eg relative abundance, easy isolation, and so on).

In this study, pooled lens protein samples were subjected to fractionation using the standard HPLC methodology. The collected samples of DOPA and o-Tyrosine were desalted and subjected to mass spectroscopic analysis.

The result of the selective ions (at m/z 198 and 182) chromatograms for DOPA and o-tyrosine fractions shows that a) with a peak area of 4273020 for cataract Type III protein sample and 115760 for normal sample in the case of DOPA; b) with a peak area of 4452970 for cataract sample and 1438126 for normal sample in the case of o-tyrosine. These data confirm the HPLC results.