

OR-14**Identification of Phospholipid Classes in Human Cancer and Normal Tissue Extracts by Nano-ESI Tandem Mass Spectrometry**Safian M F¹ and Lehmann W.D²

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Phospholipids can be classified into glycerol- and sphingo-phospholipids and into classes based on their polar head groups. The major glycerophospholipid classes are phosphatidylethanolamine (PE), phosphatidylcholine, phosphatylserine (PS) and phosphatidylinositol (PI). In this study, total lipid and phospholipid extraction was performed according to the Bligh and Dyer method [1]. The extracts were analysed in both positive and negative ion modes ESI-MS for monitoring the present of intact phospholipids. Structural characterizations of each intact phospholipid were done in both positive and negative ion mode by electrospray ionization tandem-mass spectrometry (ESI-MS/MS). The MS/MS analyses of each protonated $[M+H]^+$ and deprotonated $[M-H]^-$ molecule were performed at various different collision off set values in order to obtain the intense characteristic fragment ions in the MS/MS spectra. PC was identified in positive ion mode for all extracts due to their fixed positive charged at the choline group [2, 3] PS was able to be detected in positive and negative ion mode. In the extracts protonated PS at m/z 790 was detected at with a prominent fragment ion m/z 605. The PS species observed at m/z 790 is assigned as PS (18:0,18:1). In negative ion mode deprotonated singly charged ion and deprotonated doubly charged ion was observed at m/z 788.5 and at 393.8 respectively. PE, PI and plasmalogen-PE were also identified in the extracts.

REFERENCES

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