

Proteomics-based approach for identification and purification of human phosphate binding apolipoprotein from amniotic fluid

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ABSTRACT. Human amniotic fluid is of both maternal and fetal origin; it protects the fetus and provides the environment for growth and development of the fetus. We used a proteomics-based approach for targeting and purifying human phosphate binding protein, a member of the DING family of proteins from amniotic fluid, using Blue Sepharose CL-6B, DEAE-Sephacel and gel filtration chromatography. The protein had earlier been reported to be serendipitously purified along with PON1 (paraoxonase 1). It was identified using electro-spray-ionization-time-of-flight mass spectrometry and was found to be human phosphate binding protein. Human phosphate binding proteins have been reported to play a role as phosphate scavengers and may have a protective function against phosphate-related disorders, such as atherosclerosis, diabetes and kidney stones.

Key words: Amniotic fluid; Human phosphate binding protein; Proteomics