Perfluorinated Compounds in Plasma of Northern Fur Seals (*Callorhinus ursinus*)

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Perfluorinated compounds (PFCs) are contaminants of emerging concern with worldwide distribution. PFCs exhibit toxicological effects in laboratory animals and may pose a risk of adverse effects in marine mammals. There have been several studies examining PFCs in marine mammals; however, to date perfluorooctane sulfonate (PFOS) is the only compound that has been analyzed in northern fur seals (*Callorhinus ursinus*). In this study we report concentrations of thirteen perfluorinated compounds measured in northern fur seal plasma. Samples were collected from animals harvested on St. Paul Island, Alaska in 2006 and 2007. Liquid chromatography/tandem mass spectroscopy (LC/MS/MS) was used to perform the analysis. In plasma, perfluoroundecanoic acid (PFUnA) was the most abundant compound with a median concentration of 5.4 ng/g ranging from < the limit of detection (LOD) to 18.0 ng/g, followed by perfluorononanoic acid (PFNA) at 3.4 ng/g (1.2 to 9.7 ng/g) and PFOS at 2.8 ng/g (<LOD to 18.6 ng/g). Interestingly, PFOS is not the most abundant compound as it is in most environmental studies, suggesting a different source or preferential metabolism of the C11 and C9 carboxylic acid compounds. The results reported here demonstrate that several perfluorinated compounds are at measurable quantities in the northern fur seal, some PFCs being measured for the first time in this species.

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