

Significance to Metallomics

The blood of individuals suffering from the iron-overload disease hemochromatosis contain a low-molecular-mass iron complex called “non-transferrin-bound iron” or NTBI. This toxic form of iron collects in the liver and heart. The chemical structure of NTBI is unknown, but is commonly thought to be ferric citrate. In this paper, the low-molecular-mass iron complexes in the blood of various mammals and humans, including some with hemochromatosis, were investigated using liquid chromatography. A half-dozen low-molecular mass iron species were detected and characterized, but surprisingly they do not appear to be ferric citrate. This is a critical step towards defining NTBI.