Fe3+ is the chemical symbol for the ferric ion, which is a form of iron that has a positive charge of +3. Ferric ion is the oxidized form of iron and is commonly found in nature in various minerals, soils, and rocks. In biological systems, Fe3+ is an important component of heme and other iron-containing proteins.

In the context of iron metabolism, Fe3+ is the form of iron that is most commonly found in non-heme iron sources, such as plant-based foods and fortified foods. Fe3+ is poorly absorbed by the body and requires reduction to Fe2+ in order to be efficiently taken up by the enterocytes in the small intestine. This reduction step is mediated by the enzyme DCYTB, which uses electrons from ascorbate (vitamin C) to convert Fe3+ to Fe2+.

In addition to its role in iron metabolism, Fe3+ has other important functions in biological systems. It is a component of many enzymes and is involved in various redox reactions, including the transfer of electrons in the electron transport chain during cellular respiration. Fe3+ is also involved in the regulation of gene expression and cell signaling pathways.

While Fe3+ is an essential nutrient, excess amounts can be toxic to the body and lead to oxidative stress and tissue damage. In certain diseases, such as hereditary hemochromatosis, there is an abnormal accumulation of iron in the body, which can lead to a variety of health problems.