- Explain why iron storage proteins are necessary for the transport of iron both intracellularly and extracellularly within the bloodstream at a pH of 7.4.

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The K_{sp} of $Fe(OH)_3$ is so low, that even at pH 7.4 there are sufficient OH^- ions present to precipitate the Fe^{3+} ions as $Fe(OH)_3$.

To avoid precipitation and to allow a higher concentration of Fe^{3+} to be circulated, Fe^{3+} is complexed by *transferrin* in the bloodstream and iron is stored within *ferritin* within the cell.