

Abstract

To find out if the haematopoietic system is common feature of vertebrates, we decided to examine haematopoiesis in a sea lamprey (*Petromyzon marinus*). All blood cells arises from the haematopoietic stem cells in higher vertebrates. We assume that this is common for the higher vertebrates and a jawless vertebrates, but nobody was interested in the jawless haematopoiesis since 1970. Using a reverse genetic, we identify homologues of important hematopoietic of higher vertebrates in transcriptome of the sea lamprey with emphasis on important receptors or transcription factors, because they can be used as the specific markers of different blood cells and their progenitors. Then we use those sequences for cloning, expression measurements and other work. We picked up sea lamprey as model organism because its unique phylogenetic position, important foe evo-devo studies, but also because lack of elementary knowledge about sea lamprey haematopoiesis.

Key words: *Petromyzon marinus*, haematopoiesis, HSC, evo-devo