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Interferons type II and their receptors R1 and R2 in fish species: evolution, structure, and function

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Highlights

- A phylogeny for fish IFN-γ, IFN-γR1 and IFN-γR2 was inferred.
- The existence of two classes of IFN-γ related proteins, IFN-γrelA and IFN-γrelC was proposed.
- Olive flounder (*Paralichthys olivaceus*) IFN-γ crystal structure was determined at 2.3 Å resolution.
- Structure guided sequence bioinformatics and affinity measurements were used to describe molecular coevolution between IFN-γ and IFN-γR1.