

The Invertebrate Primitive Antibody and Viral Diseases

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In the year 1980, we have discovered vaccination in echinodermata by immunizations with various antigens (with or without Freund's adjuvant).

Later, with coworkers, we discovered the sea star IgKappa gene. Its sequence was composed of about 435 nucleotides.

The work was published at Meta-Gene in 2016.^[1]

We have studied the effects of sea star IgKappa gene on cancerous human cells (Hela cells and melanoma cells). Mainly the sea star IgKappa gene, incorporated in a plasmid (CMV plasmid), exerts a high spontaneous cytotoxicity against Hela cells.

However, it does not constitute, in fact, in the present time, a good therapy for cancer diseases.

On the other hand, we consider that the sea star IgKappa gene and the invertebrate primitive antibody (IPA) are "PRIMITIVE."

A primitive gene, a primitive protein.

Hence, as "Young" elements, they may play a role, in immunotherapy of various diseases, in particular viral diseases

It is why, we envisage to use them in coronavirus disease and particularly COVID-19 disease. We think that this primitive antibody may add a positive effect to immunodeficiency pathology which was provoked by COVID invading, viral invading.

Today, we envisage immunology with a new light: We have a sea star IgKappa gene, an invertebrate primitive antibody.

The sea star IgKappa gene is very high in the phylogeny of the immune system of animals.

It shows already two Ig sites! The forms of IgKappa genes are all found in vertebrates, they share many details with the sea star, including the presence of Ig sites.^[1]

Sequence of the sea star IgKappa gene:

GGA TCC GGA GGA ATG CGT GGC AAC ATG GCG
TCT CTA TGG ATG TTC TTCT

TGT CGT GGG GAT AAC TTT ACA ACG GAG TTT GGC
GATTACACGTTTCGCG

AGC AAC CGT CGG ACA CTA GCG CGT TGC AGG
GGA GCACAGTGGTGCTTCAC

TGC TCC GTT GAG CAG TAC ATA AAC ACC ACG GCC
ATCGTTTGGTGGAGCCG

TGA CTC GGT CAT CAG CCA CAA CAA AGA CCT GAA
ACT GTC CAG TCTAAACA

CCG ACC AGC TCC AAA GGT ACT CGA TTT CAG GCG
ACG CAT CTC GGG GGGAA

TTC AAC CTT AAA ATA GTG AAC TTT ACC GCC ACA
GACGCCGCCAGTTACCG

CTGTCAGATG TAAGAA TTC

This gene induces an anti-HRP (horseradish peroxidase) primitive antibody which can be also produced by human Hek 293 EBNA according the method of Durocher^[2] or by incorporation in a *Escherichia coli*, plasmid as it was said precedently.

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In conclusion, the IPA may be used as a primitive synthetic antibody to cure the various immunodeficiencies as the viral ones.

REFERENCES

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How to cite this article: Leclerc M. The Invertebrate Primitive Antibody and Viral Diseases. *Clin Res Immunol* 2020;3(2):1-2.