

## AIMS

The main goal of this project will be to find an inhibitor for IDO, using a multidisciplinary approach.

The enzyme indoleamine 2,3-dioxygenase (IDO) contributes to the escape of tumors from the host's immune response (immunosurveillance escape). IDO catalyzes the first and rate-limiting step of Kynurenine pathway (KP) which is the major route of tryptophan catabolism. When the immune response is activated, tryptophan degradation is accelerated, and T cells, missing this essential amino acid, are incapable of mounting appropriate immune responses. Certain infections or neurological disorders increase the production of several neuroreactive tryptophan catabolites, such as neurotoxic quinolinic acid (QUIN) and 3-hydroxykynurenine or anticonvulsant and neuroprotective kynurinic acid (KYNA). IDO's role in amyotrophic lateral sclerosis, AIDS, Alzheimer's disease, cerebral malaria besides cancer is now an accepted fact.

Sponges present particular chemotypes. Previous results obtained by this team showed that organic extracts of a sponge tested positive as kynurenine pathway modulator.