Master « Sciences, Technologie, Santé »
Mention « In Silico Drug Design »
Second Year

OFFER AN INTERNSHIP
Academic Year 2015 – 2016
Send to Mrs Pr Camproux :
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Name of the head of laboratory or company: SANOFI R&D

LGCR / SDI / CADD

Adress : 1, avenue Pierre Brossolette - 91385 CHILLY-MAZARIN Cedex – France

Contact : Claire MINOLETTI-HOCHEPIED

E-mail : Claire.Minoletti@sanofi.com

Name of training supervisor:

Phone number :
Fax :
E-mail : <u>Specialty training</u> :   Research   ☐   Professional   ☐

a few key words to describe the subject of training :

Title of internship:

Development of immunogenicity models for synthetic peptides including non-natural aminoacids.

Requirements :
The candidate should be familiar with peptides, proteins and have some knowledge on QSAR (mainly R) and structure handling: homology modelling and docking. Experience in scripting (knime, python, perl) would be a plus.

this subject is a first step towards a thesis: Yes - No

Short texte describing your project

In the context of programs where synthetic peptides are developed against GPCRs, an immunogenicity issue is frequently observed, mainly due to their affinity to Major Histocompatibility Complex (MHC) class II. MHCs are subdivided in two groups: class I which is well characterized in terms of structures, model development and prediction, and class II, for which crystallographic structures are known but in-silico prediction tools are less accurate.
The purpose of this study is to develop tools in order to identify peptides that could bind with high affinity to these MHCs class II, and to evaluate how introduction of non natural aminoacids could disrupt the binding of these peptides.
Based on internal datasets, several methods will be evaluated: evaluation of existing commercial tools in the field of docking, peptide QSAR, etc… but also development of tools and methods based on existing in-house programs.
The internship will be done in Sanofi Research Center (Chilly-Mazarin) in the Computer-Aided Drug Design team.

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