EPFL-TTO

EPFL Innovation Park J
CH-1015 Lausanne
Switzerland
+41 21 693 70 23
http://tto.epfl.ch/

Research Contact

Prof. Elisa Oricchio
+41 21 693 08 47
elisa.oricchio@epfl.ch

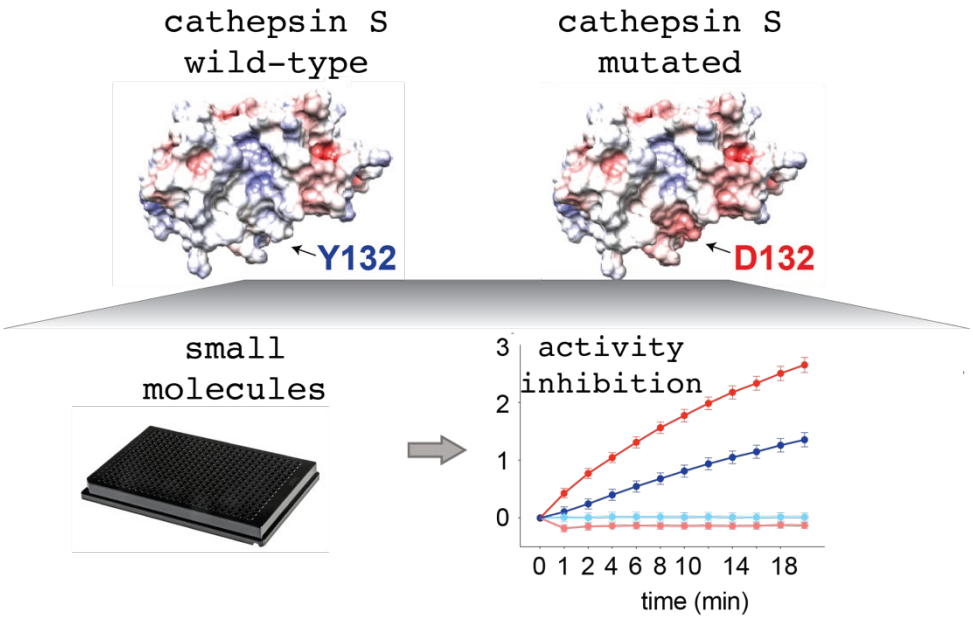
TTO Contact

Dr. Natalia Giovannini
+41 21 693 35 90
natalia.giovannini@epfl.ch

Licensing Opportunity

TTO – Technology Transfer Office

Cathepsins inhibitors as anti-cancer therapies



Ref. Nr

6.2086

Keywords

Cathepsin S, haematological, solid tumors, oncogenic mutation, Y132D

Patent

Priority patent application no EP20165999.2 (26/03/2020)

Publication

DOI:
10.1016/j.ccell.2020.03.016

Date

18/02/2021

Description

Over the past years, cancer treatment has improved thanks to the introduction of targeted and immuno- therapies. However, tumor relapse and resistance to current therapies prompt to search of new therapeutic targets that could combine the benefit of both targeted and immuno-therapies. We identified the cysteine protease cathepsin S as an important therapeutic target in hematological malignancies and solid tumors.

In hematological malignancies, cathepsin S is over-activated by the oncogenic mutation Y132D and gene over-expression and loss of its activity induces activation of T-cells and anti-tumor immune responses. In addition, in solid tumors, inhibition of cathepsin S activity can limit the formation of metastasis. Therefore, we have developed a competitive image base assay to rapidly measure the activity of cathepsin S and with this assay we identified small molecules that can specifically inhibit the activity of cathepsin S.

Advantages

- High level of specificity
- Rapid assessment of efficacy
- Low toxicity

Applications

- Treatment of hematological cancer in early phase as single agent