(SD2020-033) HRas Selective Depalmitoylating Drugs

Tech ID: 30540 / UC Case 2020-033-0

BACKGROUND

HRas is a member of the Ras family of GTPases, which function as key regulatory proteins in cell differentiation, proliferation, and survival. Mutations in HRas are associated with several cancers, as well as Costello syndrome, a severe congenital disorder for which there is no cure. Therefore, there is significant interest in developing therapeutics which target HRas signaling. However, Ras proteins are challenging to target

TECHNOLOGY DESCRIPTION

Previously, researchers from UC San Diego have developed an NCL-based depalmitoylation strategy for the chemo-selective cleavage of S-palmitoyl groups in vivo (hyperlink: https://techtransfer.universityofcalifornia.edu/NCD/30462.html).

Recently, the researchers designed a set of newly synthesized compounds that exhibit improved potency and selectivity toward the therapeutically relevant proteins HRas and NRas in live cells.

APPLICATIONS

These new compounds illustrate a general roadmap for the design and synthesis of depalmitoylating compounds and has potential therapeutic applications for a number of diseases in which palmitoylation is dysregulated, such as cancer.

INTELLECTUAL PROPERTY INFO

This technology is patent pending and available for licensing.

RELATED MATERIALS

▶ Rudd AK, Brea RJ, Devaraj NK. Amphiphile-Mediated Depalmitoylation of Proteins in Living Cells. J Am Chem Soc. 2018 Dec 19;140(50):17374-17378. doi:10.1021/jacs.8b10806. Epub 2018 Dec 10. - 12/19/2018

PATENT STATUS

Patent Pending

RELATED TECHNOLOGIES

▶ (SD2017-252) Strategy for in vivo Depalmitoylation of Proteins and Therapeutic Applications Thereof

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OTHER INFORMATION

KEYWORDS

Cancer, NRAS, KRAS, HRAS, oncogene, GTPase, cell regulation, Ras family, Costello syndrome

CATEGORIZED AS

▶ **Medical**
▶ Disease: Cancer
▶ Research Tools

RELATED CASES

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