sirius fine chemicals

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Chemical Dimerizer rCD1

Chemical Dimerizers **are powerful tools** for non-invasive manipulation of enzyme activities in **intact cells**.

The first rapidly reversible chemical dimerization system – **rCD1** - , which permits to determine kinetics of lipid metabolizing enzymes in living cells, is now available at **SiChem ***. This new system was applied to **induce and stop** the activity of phosphatidyl 3-kinase (PI_3K).

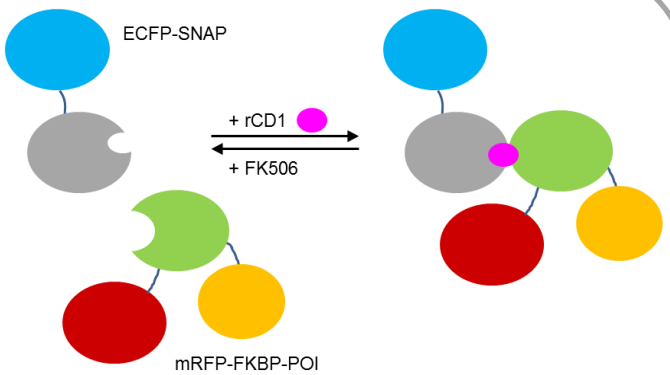
All CID (chemical induced dimerization) systems are generally irreversible unless a sophisticated technique that requires 2 CIDs is applied. This strategy enables to perform **dimerization in a reversible manner** on **single cell level**, which is convenient for **fluorescent microscopy experiments**.

This is a novel reversible dimerization system based on a standard design that brings in a first step a given active enzyme to defined cellular location by adding rCD1. In a second step, the translocated enzyme is rapidly removed by addition of a competing ligand (FK506)

This Chemical Dimerizer will be suitable to measure many different metabolic processes in intact cells !

SC-7000: 100µg
500µg

- 100µg are enough for app. 20 experiments
- soluble in e.g. imaging buffer (1µm)
- or use a stock solution: 2-4mM in **dry** DMSO
- contains also a vial of FK506 !



rCD1-based dimerization system

FKBP: FK506 binding protein
ECFP: Enhanced Cyan Fluorescent Protein
mRFP: monomeric Red Fluorecscent Protein
POI: Protein Of Interest

Publications for further information

❶ A single-cell model of PIP3 dynamics using chemical dimerization
MacNamara A, Stein F, Feng S, Schultz C, Saez-Rodriguez J.
Bioorg. Med. Chem. 2015, 23(12): 2868 / doi:10.1016/j.bmc2015.04.074

❷ Reversible chemical dimerizer-induced recovery of PIP2 levels moves clathrin to the plasma membrane
Schifferer M, Feng S, Stein F, Tischer C, Schultz C.
Bioorg. Med. Chem. 2015, 23 (12): 2862 / doi:10.1016/j.bmc.2015.03.048

❸ A Rapidly Reversible Chemical Dimerizer System to Study Lipid Signaling in Living Cells
Feng, S., Laketa, V., Stein, F., Rutkowska, A., MacNamara, A., Depner, S., Klingmuller, U., Saez-Rodriguez, J. & Schultz, C.
Angew Chem Int Ed Engl. 2014, 53: 6720 / doi: 10.1002/anie.201402294

For **purchase orders** please go our online shop or send us an e-mail (info@sichem.de) or fax (+49-421-2208-226)
For any further questions, don't hesitate contacting us !