

## Novel fluorescent probe for neuro stem cell

Researchers have developed a fluorescent compound that specifically lights up live neural stem cells in both mice and human (Proc. Natl. Acad. Sci. USA 2012, 109, 10214-10217). Up to now, live neural stem cells have been identified by immunostaining of cell surface molecules using antibodies. But these techniques are expensive, not specific for neural stem cells, and often inappropriate for clinical use. In an effort to develop less expensive, more specific, and more clinically useful agents, Young-Tae Chang of National University of Singapore and coworkers used diversity-oriented synthesis to make over 3,000 fluorescent chemical compounds. They incubated them with cells in different differentiation stages and acquired fluorescence images of these cells with a high-throughput microscope. They then used flow cytometry to evaluate compounds that stained neural stem cells much more brightly than other cells. The best hit was CDr3, which labels fatty acid binding protein 7, a protein highly expressed in neural stem cells during brain development. The agent could ease drug discovery for neurological diseases. Neural stem cells have great potential for treating neurological conditions, so CDr3 could aid the discovery of therapies for such diseases.

