expression. They then performed literature searches and used RNA-silencing techniques to further narrow down their results.

The team focused on TMEM97 because it is highly expressed in sterol-depleted cells and is targeted by sterol-response-element binding proteins, which also activate other cholesterol regulatory genes. Knocking down its expression led to decreased cholesterol uptake and lowered cholesterol levels in cells. The authors suggest that their combined screening technique offers a powerful method for pinpointing genes in particular pathways.

MICROBIOLOGY

Supershedding mice

Infect. Immun. doi:10.1128/IAI.00558-09 (2009) Clostridium difficile, a spore-forming anaerobic bacterium that inhabits the gut of as many as 5% of humans, is a leading cause of antibiotic-induced diarrhoea. When a carrier takes antibiotics, these can wipe out other gut microbiota and send C. difficile into overdrive, which can lead to rampant spread of the bacterium in hospital settings. Trevor Lawley of the Wellcome Trust Sanger Institute in Hinxton, UK, and his colleagues have developed a new mouse model for the condition.

Between two and three days after treatment with the antibiotic clindamycin, mice carrying C. difficile shed a million-fold more spores in their faeces than before. More than half of the mice retained this ‘supershredder’ status for several weeks. Uninfected mice housed with supershedders became carriers themselves; because the bacterial spores are ethanol resistant, cages had to be thoroughly cleaned with sporicides.

NEUROLOGY

Feeling out autism


Reza Shadmehr at Johns Hopkins University in Baltimore, Maryland, and his colleagues asked children with ASD and children with typical development to play a video game in which they learn to use a robotic arm to capture animals. As training progresses, a force is applied to the arm that the children must correct for. In some instances, the corrective force that the children apply was measured, revealing how their brains build a generalized mental model of the way in which the robotic arm works.

Those children with ASD who were most reliant on the physical feedback to build this mental model had larger deficits in motor control, imitation and even social function.