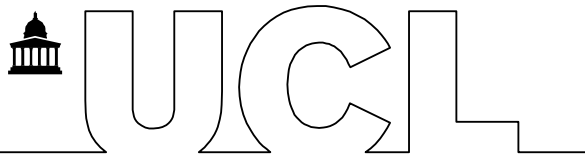

Mizielinska, S; Isaacs, AM; (2016) One target for amyotrophic lateral sclerosis therapy? Targeting a single protein reduces both toxic repeat RNAs and proteins. Science, 353 (6300) pp. 647-648. 10.1126/science.aah5408.

ARTICLE

One target for amyotrophic lateral sclerosis therapy?

Sarah Mizielinska, Adrian M. Isaacs
Institute of Neurology, University College London

Abstract
Repeat expansion mutations cause a range of developmental, neurodegenerative, and neuromuscular disorders. The repeat sequences generally comprise a 3– to 6–base pair repeat unit that expands above a critical threshold, leading to disease. Expanded repeats cause disease via a range of mechanisms, including loss of function of the repeat-containing protein and production of toxic repeat RNAs and proteins, making the disorders difficult to treat. In 2011, a hexanucleotide repeat expansion in the *C9orf72* gene was identified as the most common cause of frontotemporal dementia and amyotrophic lateral sclerosis (termed c9FTD/ALS) (*1*, *2*). On page 708 of this issue, Kramer *et al.* (*3*) report that targeting a single factor, Spt4, reduced production of *C9orf72* repeat expansion–associated RNA and protein, and ameliorated neurodegeneration in model systems.