

RESEARCH IN CONTEXT

1. **Systematic review:** Antibody-based therapy for the treatment of neurodegenerative diseases has seen important advances. However, this disease-modifying approach remains controversial due to lack of efficacy and potential severe side effects when administered to patients. The molecular mechanisms underlying the putative antibody-mediated neurotoxic effects, including ARIA, have not been studied comprehensively.
2. **Interpretation:** The results of this study involving human induced pluripotent stem cells- derived neurons (HSCN) from a non-demented donor, co-cultured with human primary microglia treated with anti-A β 1-6, or anti-A β 17-23 antibodies led alteration of the neuronal proteome with activation of apoptotic and allergenic proteins.
3. **Future directions:** Future research in this field should aim to confirm the above changes in Alzheimer's disease patients recruited to immunotherapy clinical trials. Furthermore, this study confirm the need for extensive molecular characterisation with focus on toxicity and allergenicity before clinical trials to help identify innocuous antibodies.