RNA-protein interactions are essential for many aspects of RNA metabolism including splicing, editing, transport and translation. Recent studies have identified more than 800 RNA binding proteins (RBPs) in human cells. Although the biological functions of the majority of these RBPs remain unknown, accumulated lines of evidence have revealed that abnormal RNA processing in specific neuronal cells is involved in the pathogenesis of some neurodegenerative diseases. For instance, mutations in the genes that encode TDP-43, FUS and hnRNPA1 can cause amyotrophic lateral sclerosis (ALS) and frontotemporal lobar degeneration (FTLD). Therefore, understanding of the physiological and pathological roles of disease-associated RBPs is crucial for elucidating disease mechanisms. In this seminar, I introduce how to identify targets and functions of a neurodegeneration-associated RBP systematically and discuss its pathological role.