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(54) **Title**: TDP-43 SPECIFIC BINDING MOLECULES

(57) **Abstract**: Provided are novel TDP-43 -specific binding molecules including polypeptides such as human antibodies, as well as fragments, derivatives and variants thereof. Also provided are methods related to these TDP-43 specific binding molecules. Assays, kits, and solid supports related to TDP-43 -specific binding molecules, including polypeptides such as, human antibodies are also disclosed. The TDP-43-specific binding molecule, antibody, immunoglobulin chain(s), as well as binding fragments, derivatives and variants thereof can be used in pharmaceutical and diagnostic compositions for TDP-43 targeted immunotherapy and diagnosis, respectively.