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(54) **Title**: ANTI-CεmX ANTIBODIES CAPABLE OF BINDING TO HUMAN mIgE ON B LYMPHOCYTES

(57) **Abstract**: The invention pertains to the generation and utility of antibodies that can bind effectively to CεmX domain on membrane-bound IgE (mIgE) expressed on the surface of human B lymphocytes. The CεmX domain of 52 amino acid residues, located between the CH4 domain and the C-terminal membrane-anchor peptide on human membrane-bound epsilon chain, had been suggested as an antigenic site for immunological targeting of B cells expressing mIgE. Previous reported monoclonal antibodies, including a20, which bind to RADWPGPP peptide at the C-terminal of CεmX, have now been found to bind poorly to mIgE on human B cells. We have discovered that only monoclonal antibodies specific for certain segments, such as GLAGGSAQSQRAPDRVL and HSGQQQGLPRAAGGSVPHPR, of CεmX can bind effectively to mIgE on human B cells and hence have the utility for targeting those B cells for the treatment of diseases mediated by IgE.