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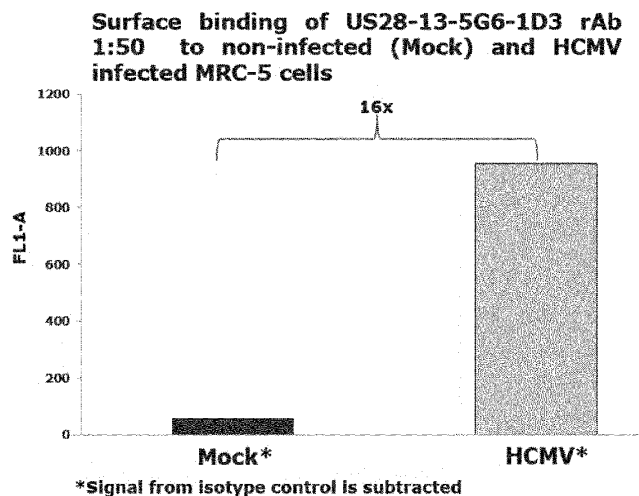


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(54) **Title:** THERAPEUTIC AND DIAGNOSTIC AGENTS AND USES THEREOF

Fig 9



(57) **Abstract:** The present invention provides binding molecules having one or more of (preferably all of) highly specific binding to the US28 protein of human cytomegalovirus (HCMV), very low levels of non-specific binding to healthy (non-infected) cells, and/or a strain-agnostic binding ability, as well as nucleic acid molecules encoding the said binding molecules. The binding molecules are designed to bind to extracellular domain 3 (ECD3) of a US28 protein of human cytomegalovirus (HCMV), the third of the four extracellular domains presented by US28, corresponding to positions 167 to 183 of the US28 protein sequence as defined by SEQ ID NO:5. The binding molecules of the present invention have been demonstrated to have excellent binding properties, including particular binding specificity for aggressive and/or metastasizing HCMV-infected cancers, including breast cancers. In certain preferred embodiments, the binding molecule is selected from an antibody (including, for example, a BiTE antibody) and a chimeric antigen

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receptor (CAR), or functional variants, fragments, fusion proteins, and/or conjugates thereof. Also provided are cells expressing said binding molecules, such as CAR-expressing cells, including CAR-T cells, CAR-NK cells, and CAR-M cells.