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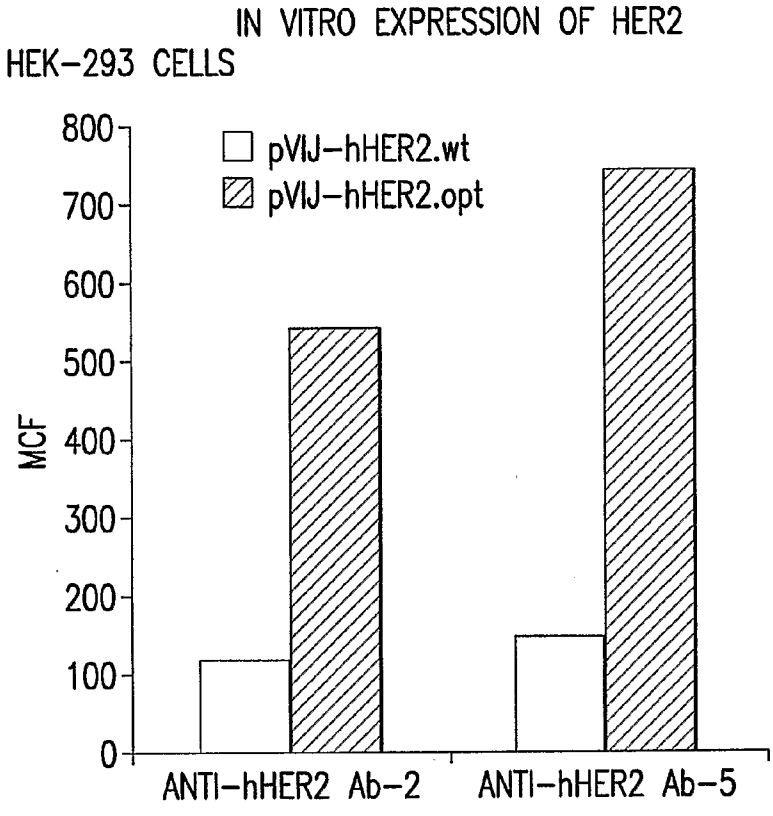
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(54) Title: SYNTHETIC GENE ENCODING HUMAN EPIDERMAL GROWTH FACTOR 2/NEU ANTIGEN AND USES THEREOF



(57) Abstract: Synthetic polynucleotides encoding human HER2/neu or a truncated form thereof, are provided, the synthetic polynucleotides being codon-optimized for expression in a human cellular environment. The gene encoding hHER2 is commonly associated with the development of human carcinomas. The present invention provides compositions and methods to elicit or enhance immunity to the protein product expressed by the hHER2 tumor-associated antigen, wherein aberrant hHER2 expression is associated with a carcinoma or its development. This invention specifically provides adenoviral vector and plasmid constructs carrying codon-optimized human HER2 and codon-optimized truncated HER2, and discloses their use in vaccines and pharmaceutical compositions for preventing and treating cancer.

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