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(54) Title: HUMANIZED ANTIBODIES AGAINST VASCULAR ENDOTHELIAL GROWTH FACTOR

(57) Abstract: Methods are provided for designing and selecting antibodies against human antigens with high affinity and specificity in silico and in vitro. In some particular embodiments, methods are provided for designing and selecting humanized or fully human antibodies against vascular endothelial growth factor (VEGF) with high affinity and specificity. In another aspect of the invention, monoclonal antibodies against VEGF are provided. In particular, humanized or human anti-VEGF monoclonal antibodies are provided with ability to bind to human VEGF with high affinity, inhibit VEGF-induced proliferation of endothelial cells in vitro and inhibit VEGF-induced angiogenesis in vivo. These antibodies and their derivative can be used in a wide variety of applications such as diagnosis, prevention, and treatment of diseases such as cancer, AMD, diabetic retinopathy, and other diseases derived from pathological angiogenesis.