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(54) **KDR AND VEGF/KDR BINDING PEPTIDES AND THEIR USE IN DIAGNOSIS AND THERAPY**  
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(58) **Field of Classification Search**  
None  
See application file for complete search history.

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(57) **ABSTRACT**

The present invention provides polypeptides, peptide dimers, and multimeric complexes comprising at least one binding moiety for KDR or VEGF/KDR complex, which have a variety of uses wherever treating, detecting, isolating or localizing angiogenesis is advantageous. Particularly disclosed are synthetic, isolated polypeptides capable of binding KDR or VEGF/KDR complex with high affinity (e.g., having a  $K_D < 1 \mu\text{M}$ ), and dimer and multimeric constructs comprising these polypeptides, particularly contrast agents. Also provided are methods for monitoring and evaluating the therapeutic effectiveness of treatment protocols for diseases associated with angiogenesis or endothelial cell hyperproliferation, such as cancer, using contrast agents of the invention.