

Specific ELISA Kits for Proteins with Different Isoforms —VEGFA, The Lifeline of Tumor

◎ ABOUT VEGF-A

VEGF-A (Vascular Endothelial Growth Factor A), belongs to platelet derived growth factor family, which increases vascular permeability, promotes the multiplication and migration of vascular endothelial cell, decreases the tumor apoptosis, and enhances the generation of vascular support by binding to VEGFR1, VEGFR2, Nrp1 and Nrp2. VEGF-A mRNA consists of 8 exons and 7 introns, and yields 7 isoforms and 9 isomers by alternative splicing, mainly includes VEGF-A₁₂₁, VEGF-A₁₄₅, VEGF-A₁₆₅, VEGF-A₁₈₃, VEGF-A₁₈₉ and VEGF-A₂₀₆. The arabic number means the number of amino acids. The schematic diagram about their respective amino acid sequences is shown in Fig 1.

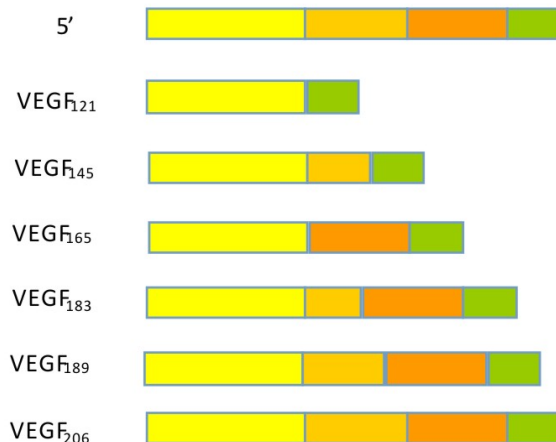


Fig.1. The amino acid sequences of VEGF-A isoforms

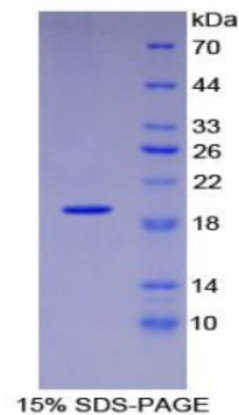


Fig.2. The SDS-PAGE

◎ PRODUCTS DEVELOPING PROCESS

Cloud-Clone Corp. developed a series of detection tools for VEGF-A, including recombinant proteins, antibodies and Elisa kits. The development of VEGF-A products brings researchers great access to VEGF-A related research.

Pro28~Asp191 of VEGF-A has been selected to express in E.coli to get recombinant VEGF-A protein (RPA143Hu01). Its molecular weight and purity have been verified by SDS-PAGE assay, please see Fig.2.

After immunizing mice with RPA143Hu01, Monoclonal Antibody to VEGF-A (MAA143Hu21) was obtained; so did the Polyclonal Antibody to VEGF-A (PAA143Hu01). Then coupling PAA143Hu01 with biotin/FITC to obtain Biotin-Linked Antibody to VEGF-A (PAA143Hu71), and FITC-Linked Antibody to VEGF-A (PAA143Hu81). Both these two antibodies not only recognize VEGF-A but also have fluorescence or biotin label, which would be more convenient to

detect VEGF-A *in vivo* and *in vitro*. Western Blot and IHC have been performed to test their validity. From the Western Blot result in Fig.3, PAA143 Hu01 can specifically recognize the VEGF-A in biological samples. And the IHC result shows that the VEGF-A mainly distributed in the cytoplasm of hepatocytes (Fig.4).

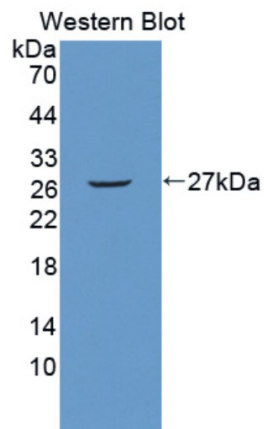


Fig.3. Result of WB

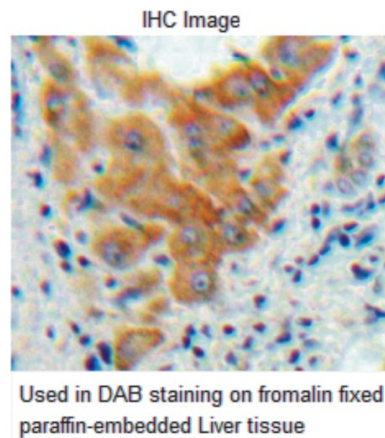


Fig.4. Result of IHC

Based on the recombinant protein and antibodies, Cloud-Clone Corp. developed VEGF-A kits, including Elisa kit (SEA143Hu) and CLIA kit (SCA143Hu). Further, Cloud-Clone Corp. developed over 40 VEGF-A related products against VEGF-A that originated from rat, mouse, rabbit and so on.

◎ DIFFERENT ISOFORMS

Last but not the least, in order to investigate specific VEGF-A isoforms, Cloud-Clone Corp. also developed products against other VEGF-A isoforms, including VEGF-A121, VEGF-A145, VEGF-A165, VEGF-A183, VEGF-A189 and VEGF-A206. Those products relate to proteins, antibodies, biotin conjugated antibodies, FITC conjugated antibodies, Elisa kits, CLIA kits, etc.

◎ CROSS-REACTIVITIES? NO!

During the process of development, Cloud-Clone Corp. screened a large number of antibodies to avoid the cross-reactivities among different isoforms. So the kits can detect target protein specifically, and avoid the interfere of other isoforms.

For more information, please visit <http://www.cloud-clone.us/>.