

SibTech, Inc.

scVEGF-HYNIC

Product #SBT304

scVEGF-HYNIC is single chain vascular endothelial growth factor, scVEGF (SibTech product #SBT300), site-specifically derivatized with ^{99m}Tc chelator, HYNIC.

Synthesis: scVEGF-HYNIC is synthesized by site-specific conjugation of HYNIC-maleimide (5-maleimido-2-hydraziniumpyridine hydrchloride, Solulink) to C4 residue of Cys-tag. scVEGF/HYNIC is purified from unreacted HYNIC-maleimide by gel-filtration.

Functional activity: The ability of scVEGF-HYNIC to bind to VEGF receptor VEGFR-2 is tested *in vitro* using a competition assay on 293/KDR human transformed embryonic kidney cells expressing 2.5×10^6 VEGFR-2/cell (SibTech product #SBT021.293). Relative to unmodified scVEGF, scVEGF/HYNIC displays 95-100% VEGF activity.

Radiolabeling with ^{99m}Tc for SPECT imaging VEGF receptors: scVEGF-HYNIC can be radiolabeled with ^{99m}Tc for using tin/tricine reagent (SibTech product #SBT10T) and used for imaging VEGF receptors in angiogenic vasculature (1, 2).

**One vial contains 0.1 mg of scVEGF-HYNIC in 110 mM tricine buffer, pH 6.0
The concentration of scVEGF-HYNIC is 15 μM (0.42 mg/ml).**

Stability: scVEGF-HYNIC is stable and functionally active for at least 6 months, if stored at -20°C or below. Multiple thawing-freezing should be avoided.

Safety warnings: For research use only. Not for human use. Not recommended or intended for diagnosis in humans or animals. As all chemicals should be considered as potentially hazardous, it is advisable to wear suitable protective clothing, such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In case of contact with skin or eyes, wash immediately with water.

References

1. Backer MV, Levashova Z, Patel V, Jehning BT, Claffey K, Blankenberg FG, Backer JM. Molecular imaging of VEGF receptors in angiogenic vasculature with single-chain VEGF driven probes. *Nature Med*, 13, 504-509, 2007
2. Backer MV, Levashova Z, Levenson R, Blankenberg FG, Backer JM. Cysteine-containing fusion tag for site-specific conjugation of therapeutic and imaging agents to targeting proteins. *Methods in Molecular Medicine. Peptide-based Drug Design*. Humana Press, New York, NY. Ed: L. Otvos. Vol. 494, p.275-94, 2008.