

**Mouse Anti-VEGFR1 Soluble isoform 14/sFlt1-14 [MD414]: MC0680**

**Intended Use:** For Research Use Only

**Description:** Human-specific splicing variant of vascular endothelial growth factor (VEGF) receptor 1 (also known as Fms-like tyrosine kinase 1) produces a soluble receptor sFlt1-14 that is qualitatively different from the previously described sFlt1 and functioning as a potent VEGF inhibitor. sFlt1-14 is generated in a cell type-specific fashion, primarily in non-endothelial cells. Notably, in vascular smooth muscle cells, all Flt1 messenger RNA is converted to sFlt1-14, whereas endothelial cells of the same human vessel express sFlt1. sFlt1-14 expression by vascular smooth muscle cells is dynamically regulated as evidenced by its upregulation on coculture with endothelial cells or by direct exposure to VEGF. Increased production of soluble VEGF receptors during pregnancy is entirely attributable to induced expression of placental sFlt1-14 starting by the end of the first trimester. Expression is dramatically elevated in the placenta of women with preeclampsia, specifically induced in abnormal clusters of degenerative syncytiotrophoblasts known as syncytial knots, where it may undergo further messenger RNA editing. sFlt1-14 is the predominant VEGF-inhibiting protein produced by the preeclamptic placenta, accumulates in the circulation, and hence is capable of neutralizing VEGF in distant organs affected in preeclampsia. Together, these findings revealed a new natural VEGF inhibitor that has evolved in humans, possibly to protect non-endothelial cells from adverse VEGF signaling.

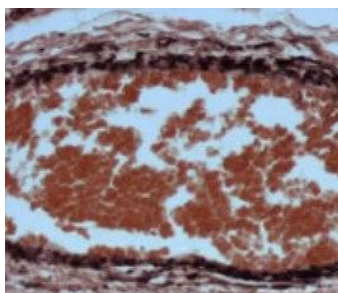
**Specifications**

|               |                                                                                          |
|---------------|------------------------------------------------------------------------------------------|
| Clone:        | MD414                                                                                    |
| Source:       | Mouse                                                                                    |
| Isotype:      | IgG1                                                                                     |
| Reactivity:   | Human                                                                                    |
| Immunogen:    | Human sFlt1-14 peptide                                                                   |
| Localization: | Extracellular matrix                                                                     |
| Formulation:  | Antibody in PBS pH7.4, containing BSA and $\leq 0.09\%$ sodium azide (NaN <sub>3</sub> ) |
| Storage:      | Store at 2°- 8°C                                                                         |
| Applications: | IHC, IF, WB                                                                              |
| Package:      |                                                                                          |

| Description                                     | Catalog No. | Size |
|-------------------------------------------------|-------------|------|
| VEGFR1 Soluble isoform 14/sFlt1-14 Concentrated | MC0680      | 1 ml |

**IHC Procedure**

|                                                                      |                                                                                     |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Positive Control Tissue:                                             | Placenta, kidney, human amniotic fluid                                              |
| Concentrated Dilution:                                               | 10-100                                                                              |
| Pretreatment:                                                        | Tris EDTA pH9.0, 15 minutes Pressure Cooker or 30-60 minutes water bath at 95°-99°C |
| Incubation Time and Temp:                                            | Overnight at 4°C                                                                    |
| Detection:                                                           | Refer to the detection system manual                                                |
| * Result should be confirmed by an established diagnostic procedure. |                                                                                     |



FFPE human foreskin stained with anti-sFlt1-14 using DAB

**References:**

1. The Soluble Fms-like Tyrosine Kinase-1 Contributes to Structural and Functional Changes in Endothelial Cells in Chronic Kidney Disease. Annika Schulz, et al. Int J Mol Sci. 2022 Dec 16;23(24):16059. doi: 10.3390/ijms232416059
2. Circulating Levels of sFlt1 Splice Variants as Predictive Markers for the Development of Preeclampsia. Colby A Souders, et al. International journal of molecular sciences. June, 2015.

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Rev. A