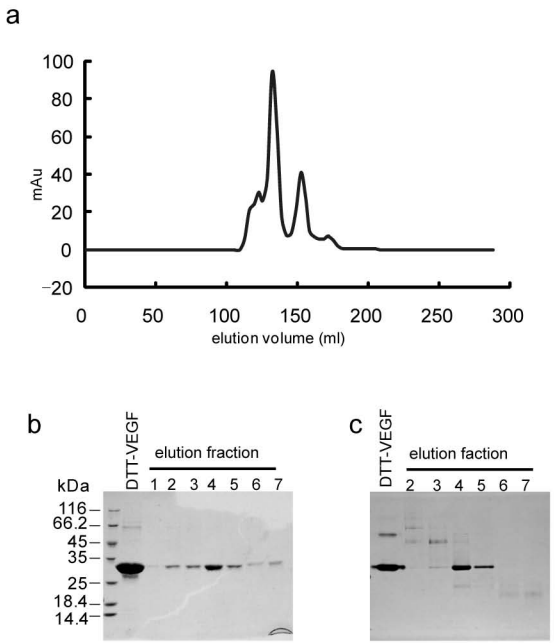
Supplementary table 1. Primers used for vector construction.

Name	Sequence
DTT-F	CGCGGATCC**GATGATGATGATAAG**ATAAATCTTGATTGGGATG TCATAAGG
DTT-R	CAAGTAGTTCATAATTCGTATAATCGTCCCGGTCAGAACCACCA CGAGGTTGT
VEGF-F	CAAGTAGTTCATAATTCGTATAATCGTCCCGGTCAGAACCACCA CGAGGTTGT
VEGF-R	CCGCTCGAGCTAATCTTTCTTCGGACGGCATTCGCACTTGTTGT

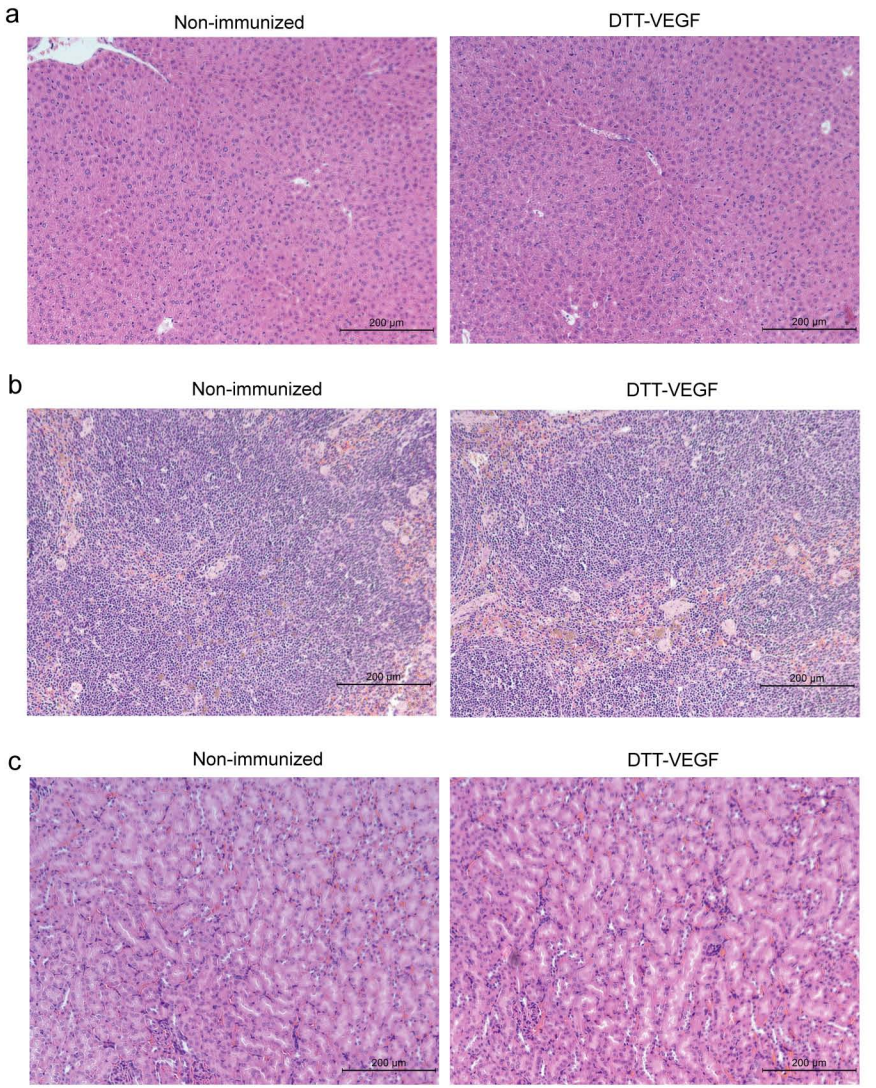
In DTT-F, *Bam*H I site is underlined and **Asp-Asp-Asp-Asp-Lys (DDDDK)** coding sequence is in bold case.
In VEGF-R, *Xho* I site is underlined

Supplementary Figure 1



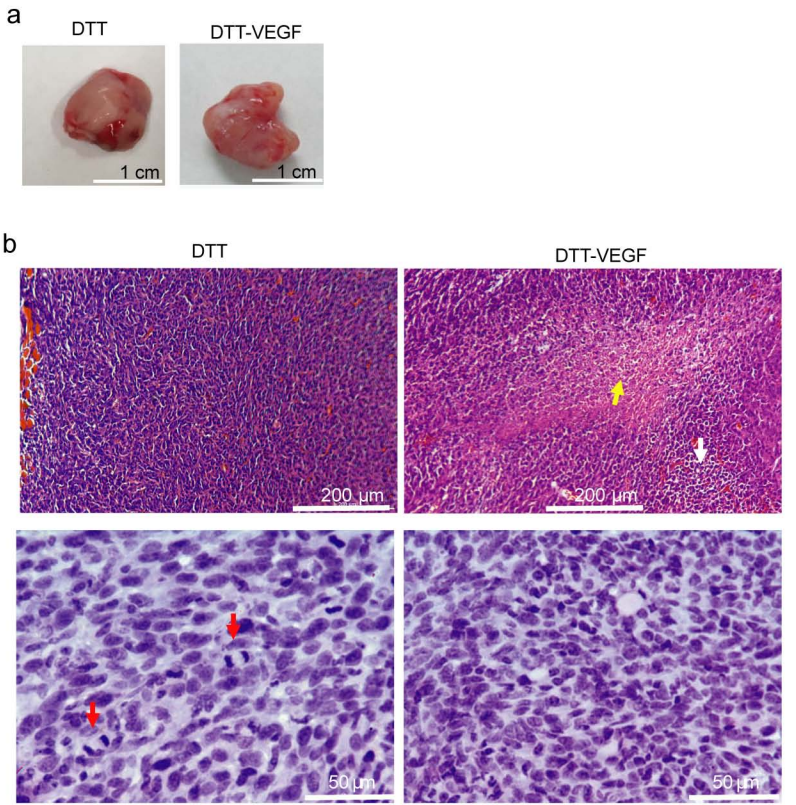
Supplementary figure 1. DTT-VEGF proteins are heterogeneous. (**a**) Superdex G-75 gel chromatography profile of purified DTT-VEGF. (**b**) SDS-PAGE analysis of elution fractions collected from Superdex G-75 gel column. Elution fractions (10 ml per fraction) were collected from 110 to 180 ml of the elution volume. (**c**) Native-PAGE analysis of the elution fractions.

Supplementary Figure 2



Supplementary figure 2. Lack of tissue damage in mice immunized with DTT-VEGF C57BL/6 mice were immunized with DTT-VEGF three times at 2 week intervals. Non-immunized mice were used as control. Liver (**a**), spleen (**b**) and kidney (**c**) were excised from mice one week after the last immunization, sectioned and evaluated by H&E staining (Magnification ×100).

Supplementary Figure 3



Supplementary figure 3. DTT-VEGF immunization induces tumor necrosis. BALB/c mice (n = 4) were immunized 3 times with DTT-VEGF or DTT at 2 week intervals. Immunized mice were subcutaneously injected with 3×105 CT26 tumor cells one week after second immunization. Tumor were excised when the diameters reached 1 cm (**a**) (DTT-VEGF group was collected at day 21, DTT group was collected at day 14) for H&E staining (**b**). Yellow arrow indicates the necrosis. White arrow shows the lymphocytes infiltration. Red arrows show the tumor cells mitosis.