ALPHA DIAGNOSTIC INTERNATIONAL

# Product Data Sheet

**Cat#:** AP-316-U
**Cat#:** AP-316-B, Biotin labeled
**Cat#:** AP-316-F, FITC labeled

**Product Description:** human umbilical vein endothelial cells

**Aptamer Type**: Peptide

**Sequence**: CGKRK; 5-mer

**Size** 5 mg

**Mol. Wt:** 600.85 g/mole

**Purity:** >95%

**Affinity:** n/a

**Comments:** n/a

**Notes:** A nanosystem targeted to tumor vasculature that incorporates three elements: (i) a tumor-homing peptide that specifically delivers its payload to the mitochondria of tumor endothelial cells and tumor cells, (ii) conjugation of this homing peptide with a pro-apoptotic peptide that acts on mitochondria, and (iii) multivalent presentation on iron oxide nanoparticles, which enhances the proapoptotic activity. The iron oxide component of the nanoparticles enabled imaging of GBM tumors in mice. Systemic treatment of GBM-bearing mice with the nanoparticles eradicated most tumors in one GBM mouse model and significantly delayed tumor development in another. Coinjecting the nanoparticles with a tumor-penetrating peptide further enhanced the therapeutic effect.

**References**: Agemy et al. "Targeted nanoparticle enhanced proapoptotic peptide as potential therapy for glioblastoma." PNAS, doi: 10.1073/pnas.1114518108.

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