iFluor™ 647 Conjugated Anti-Vimentin Antibody [SC60-05]

HA720165F

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IF-Cell, IF-Tissue, FC
Molecular Wt:	Predicted band size: 54 kDa
Clone number:	SC60-05

Description: Vimentin (57 kDa) is the most ubiquituos intermediate filament protein and the first to be expressed during cell differentiation. All primitive cell types express vimentin but in most non-mesenchymal cells it is replaced by other intermediate filament proteins during differentiation. Vimentin is expressed in a wide variety of mesenchymal cell types: fibroblasts, endothelial cells etc., and in a number of other cell types derived from mesoderm, e.g., mesothelium and ovarian granulosa cells. Vimentin is present in many different neoplasms but is particulary expressed in those originated from mesenchymal cells. Sarcomas e.g., fibrosarcoma, malignt fibrous histiocytoma, angiosarcoma, and leio- and rhabdomyosarcoma, as well as lymphomas, malignant melanoma and schwannoma, are virtually always vimentin positive. Mesoderm derived carcinomas like renal cell carcinoma, adrenal cortical carcinoma and adenocarcinomas from endometrium and ovary usually express vimentin. Also thyroid carcinomas are vimentin positive. Any low differentiated or sarcomatoid carcinoma may express some vimentin. Vimentin is frequently included in the so-called primary panel (together with CD45, cytokeratin, and S-100 protein): Intense staining reaction for vimentin without coexpression of other intermediate filament proteins is strongly suggestive of a mesenchymal tumour or a malignant melanoma. However, in biopsies representing only a sarcomatoid part of renal cell carcinoma a.o. a strong positivity for vimentin without cytokeratin expression may be seen. Tumours like lymphomas and seminomas have the same intermediate filament profile, but the vimentin expression is usually weaker.

Conjugate:	iFluor™ 647, Ex: 656nm; Em: 670nm.
Immunogen:	Synthetic peptide within C-terminal human Vimentin.
Positive control:	C2C12, Hela, L6, human kidney tissue, human pancreas tissue.
Subcellular location:	Cytoplasm.
Database links:	SwissProt: P08670 Human | P20152 Mouse | P31000 Rat
Recommended Dilutions:	
IF-Cell	1:100
IF-Tissue	1:200
FC	1:1,000
Storage Buffer:	Preservative: 0.02% Sodium azide Constituents: 30% Glycerol, 1% BSA, 68.98% PBS.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

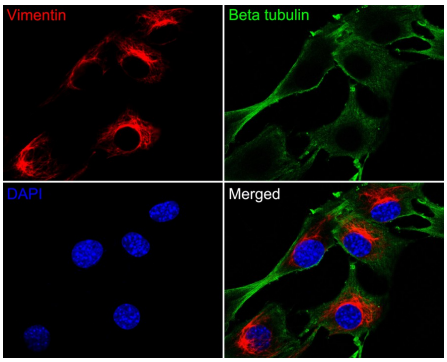

Fig1: Immunocytochemistry analysis of C2C12 cells labeling Vimentin with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution.

Cells were fixed in 100% methanol for 10 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% normal goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution in 2% normal goat serum overnight at 4 ℃. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, green) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution.

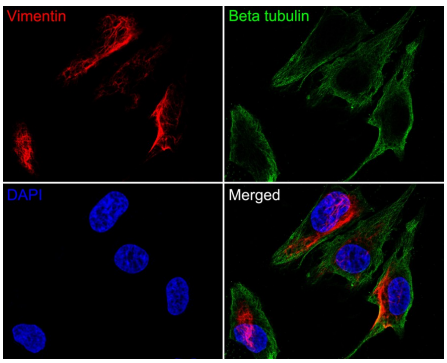

Fig2: Immunocytochemistry analysis of Hela cells labeling Vimentin with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution.

Cells were fixed in 100% methanol for 10 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% normal goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution in 2% normal goat serum overnight at 4 ℃. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, green) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution.

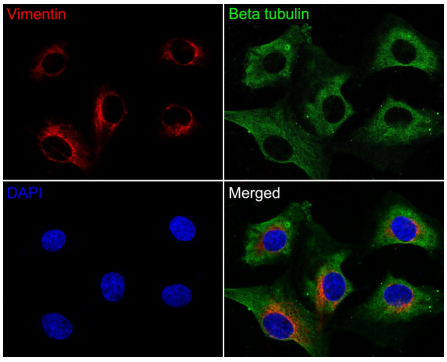

Fig3: Immunocytochemistry analysis of L6 cells labeling Vimentin with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution.

Cells were fixed in 100% methanol for 10 minutes, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes, and then blocked with 2% normal goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Vimentin antibody (HA720165F) at 1/50 dilution in 2% normal goat serum overnight at 4 ℃. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, green) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) was used as the secondary antibody at 1/1,000 dilution.

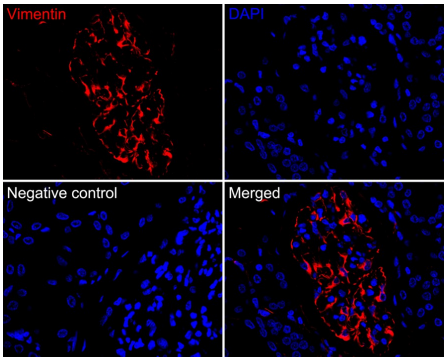

Fig4: Immunofluorescence analysis of paraffin-embedded human kidney tissue labeling Vimentin (HA720165F).

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS. And then probed with the primary antibody Vimentin (HA720165F, iFluor™ 647) at 1/200 dilution overnight at 4 ℃, washed with PBS. DAPI was used as nuclear counterstain.

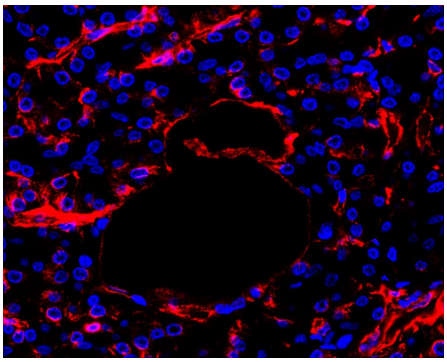

Fig5: Immunofluorescence analysis of paraffin-embedded human pancreas tissue labeling Vimentin (HA720165F).

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS. And then probed with the primary antibody Vimentin (HA720165F, iFluor™ 647) at 1/200 dilution overnight at 4 ℃, washed with PBS. DAPI was used as nuclear counterstain.

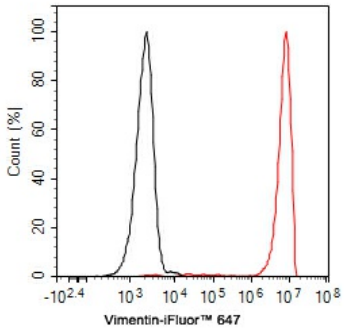

Fig6: Flow cytometric analysis of Hela cells labeling Vimentin.

Cells were fixed and permeabilized. Then incubated for 1 hour at +4℃ with Vimentin (HA720165F, iFluor™ 647, red, 1ug/ml). Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Li C et al. High-Content Functional Screening of AEG-1 and AKR1C2 for the Promotion of Metastasis in Liver Cancer. J Biomol Screen 21:101-7 (2016).
2. Fay ME et al. Cellular softening mediates leukocyte demargination and trafficking, thereby increasing clinical blood counts. Proc Natl Acad Sci U S A 113:1987-92 (2016).