

## DESCRIPTION

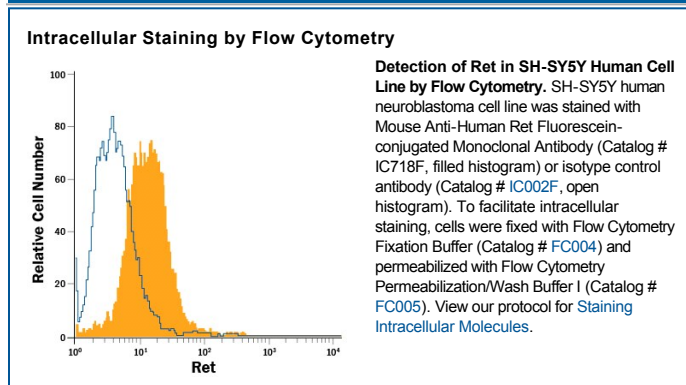
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Ret in direct ELISAs and Western blots. In direct ELISAs and Western blots, 100% cross-reactivity with recombinant mouse Ret is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 132507
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human Ret/Fc Chimera Leu29-Arg635 Accession # P07949
<b>Conjugate</b>	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm (FITC)
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

## BACKGROUND

The GDNF family of neurotrophic factors forms a subfamily within the TGF- $\beta$  superfamily. These proteins are potent survival factors for various central and peripheral neurons during development and the adult animal. The GDNF family members (GDNF, neurturin, artemin and persephin) signal through multicomponent receptors that consist of the Ret receptor tyrosine kinase and one of four glycosyl-phosphatidylinositol (GPI)-linked ligand-binding subunits (GFR $\alpha$ -1-4) (1). GFR $\alpha$ -1 -2, -3 and -4 are the preferred ligand-binding subunits for GDNF, neurturin, artemin and persephin, respectively. The Ret tyrosine-kinase receptor is a 170-175 kDa type I transmembrane glycoprotein that is encoded by the *c-ret* proto-oncogene (2,3). Mutations of the *ret* gene have been associated with various human diseases affecting tissues derived from the neural crest, including Hirschsprung's disease, multiple endocrine neoplasia MEN2A and MEN2B, and familial medullary thyroid carcinoma (4). Human and mouse Ret share 83% amino acid (aa) sequence identity (77% identity in the extracellular domain over aa 29-635). Although Ret does not bind GDNF ligands directly, in general, the extracellular domain of Ret binds the GDNF-GFR- $\alpha$  complex with high affinity and is a potent GDNF antagonist in the presence of soluble GFR- $\alpha$  (5-6).

### References:

1. Wang, X. (2013) *Biochim. Biophys. Acta.* **1834**:2205.
2. Takahashi, M. and G.M. Cooper (1987) *Mol. Cell Biol.* **7**:1378.
3. Richardson, D.S. *et al.* (2012) *Mol. Cell Biol.* **23**:3838.
4. Mulligan, L.M. *et al.* (2014) *Nat. Rev. Cancer* **14**:173.
5. Ibanez, C.F. (2013) *Cold Spring Harb. Perspect. Biol.* **5**:a009134.
6. Plaza-Menacho, I. *et al.* (2014) *Cell. Signal.* **26**:1743.