Revision 1

Phospho-Ret (Tyr905) Antibody

#3221 Store at -20C

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Dm	Endogenous	175	Rabbit	#P07949	5979

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-Ret (Tyr905) Antibody detects endogenous levels of Ret only when phosphorylated at tyrosine 905. This antibody may cross-react with other activated receptor tyrosine kinases.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr905 of human Ret. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The Ret proto-oncogene (c-Ret) is a receptor tyrosine kinase that functions as a multicomponent receptor complex in conjunction with other membrane-bound, ligand-binding GDNF family receptors (1). Ligands that bind the Ret receptor include the glial cell line-derived neurotrophic factor (GDNF) and its congeners neurturin, persephin, and artemin (2-4). Research studies have shown that alterations in the corresponding *RET* gene are associated with diseases including papillary thyroid carcinoma, multiple endocrine neoplasia (type 2A and 2B), familial medullary thyroid carcinoma, and a congenital developmental disorder known as Hirschsprung's disease (1,3). The Tyr905 residue located in the Ret kinase domain plays a crucial role in Ret catalytic and biological activity. Substitution of Phe for Tyr at position 905 dramatically inhibits Ret autophosphorylation activity (5).

Background References

1. Airaksinen, M.S. et al. (1999) *Mol Cell Neurosci* 13, 313-25.
2. Takahashi, M. et al. (1989) *Oncogene* 4, 805-6.
3. Manié, S. et al. (2001) *Trends Genet* 17, 580-9.
4. Tallini, G. and Asa, S.L. (2001) *Adv Anat Pathol* 8, 345-54.
5. Iwashita, T. et al. (1999) *Oncogene* 18, 3919-22.
6. Plaza-Menacho, I. et al. (2014) *Mol Cell* 53, 738-51.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Dm:** D. melanogaster

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