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Produktinformation

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- Diagnostik & molekulare Diagnostik
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PRODUCT INFORMATION

RET Extracellular Domain (human, recombinant)

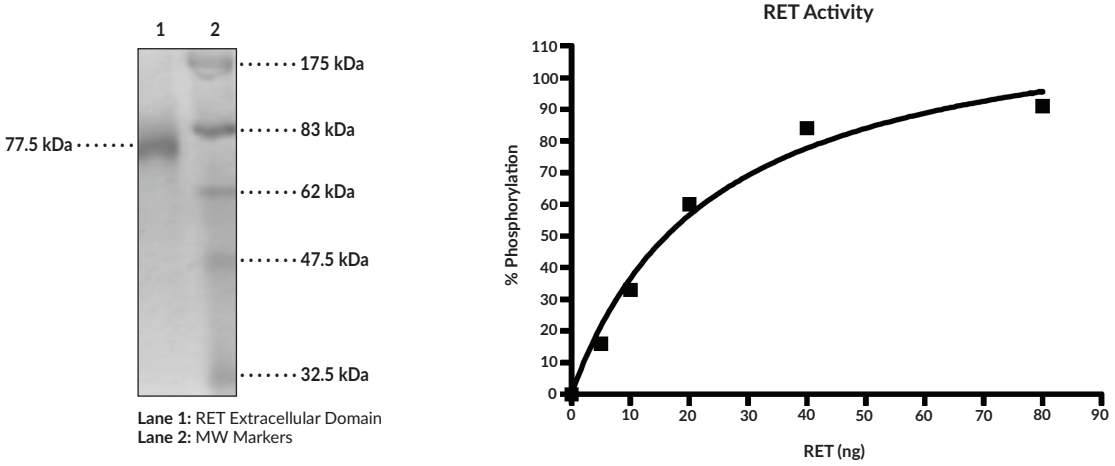
Item No. 33987

Overview and Properties

Synonyms:	Cadherin Family Member 12, Cadherin-related Family Member 16, CDHF12, CDHR16, Hydroxyaryl-protein Kinase, MEN2A, Proto-oncogene c-Ret, Rearranged during Transfection, RET51
Source:	Active recombinant human N-terminal GST-tagged RET expressed in insect cells
Amino Acids:	658-1114
Uniprot No.:	P07949
Molecular Weight:	77.5 kDa
Storage:	-80°C (as supplied)
Stability:	≥6 months
Purity:	≥90% estimated by SDS-PAGE
Supplied in:	25 mM Tris-HCl, pH 8.0, with 100 mM sodium chloride, 0.05% Tween 20, 50% glycerol, 10 mM reduced glutathione, and 3 mM DTT
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg
Unit Definition:	One unit is defined as the amount of enzyme that will transfer 1 pmol phosphate to Tyr substrate per minute at pH 7.4 and 30°C in 50 mM HEPES, pH 7.4, 3 mM magnesium chloride, 3 mM manganese(II) chloride, 1 mM DTT, 3 µM sodium orthovanadate, 0.1 mM ATP, 30 µg/ml Poly (Glu:Tyr)4:1 substrate, and 2 µg/ml recombinant RET.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: RET Extracellular Domain
Lane 2: MW Markers

SDS-PAGE Analysis of RET Extracellular Domain.

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PRODUCT INFORMATION

Description

Rearranged during transfection (RET) is a receptor tyrosine kinase with roles in cell proliferation, survival, metabolism, and migration, as well as in the development of the peripheral and central nervous systems.[1,2] It is composed of an extracellular domain, containing four cadherin-like domains (CLDs), a calcium-binding site, and a cysteine-rich region, a transmembrane domain, and an intracellular kinase domain.[1,3] RET forms heterodimeric complexes with the glial cell line-derived neurotrophic factor (GDNF) ligands GDNF, neurturin (NRTN), artemin (ARTN), and persephin (PSPN), and the GDNF family co-receptors GFRα1-4, which induces autophosphorylation of the intracellular kinase domain and activates cellular signaling.[3] Germline nonsense and/or missense mutations in *RET* decrease functional RET in gut tissue during development and are associated with Hirschsprung's disease.[1,3] Loss-of-function mutations in *RET* are associated with congenital anomalies of the kidney and urinary tract (CAKUT) and renal agenesis.[3] Gain-of-function mutations in *RET* are associated with medullary thyroid cancer, pheochromocytoma, and parathyroid hypoplasias, and *RET* gene fusions have been found in patients with lung, colon, or breast carcinomas.[2,3] Cayman's RET Extracellular Domain (human, recombinant) protein can be used for enzyme activity assays.

References

1. Mahato, A.K. and Sidorova, Y.A. RET receptor tyrosine kinase: Role in neurodegeneration, obesity, and cancer. *Int. J. Mol. Sci.* **21(19)**, 7108 (2020).
2. Santoro, M., Moccia, M., Federico, G., *et al.* RET gene fusions in malignancies of the thyroid and other tissues. *Genes (Basel)* **11(4)**, 424 (2020).
3. Li, A.Y., McCusker, M.G., Russo, A., *et al.* RET fusions in solid tumors. *Cancer Treat. Rev.* **81**, 101911 (2019).

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