

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

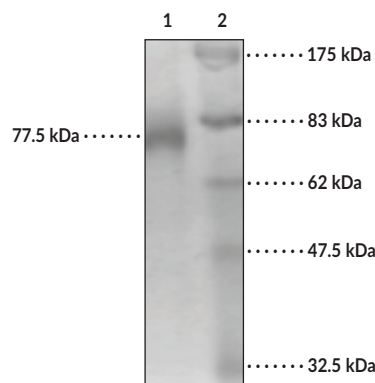
Activity: *batch specific* U/ml

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.

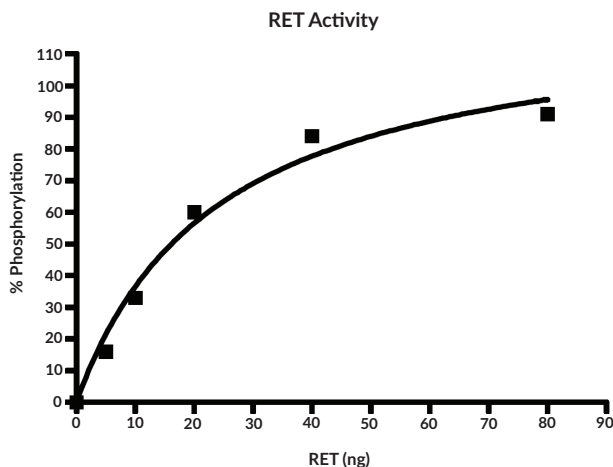
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: RET Extracellular Domain
Lane 2: MW Markers

SDS-PAGE Analysis of RET Extracellular Domain.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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 GFR α 1-4, 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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