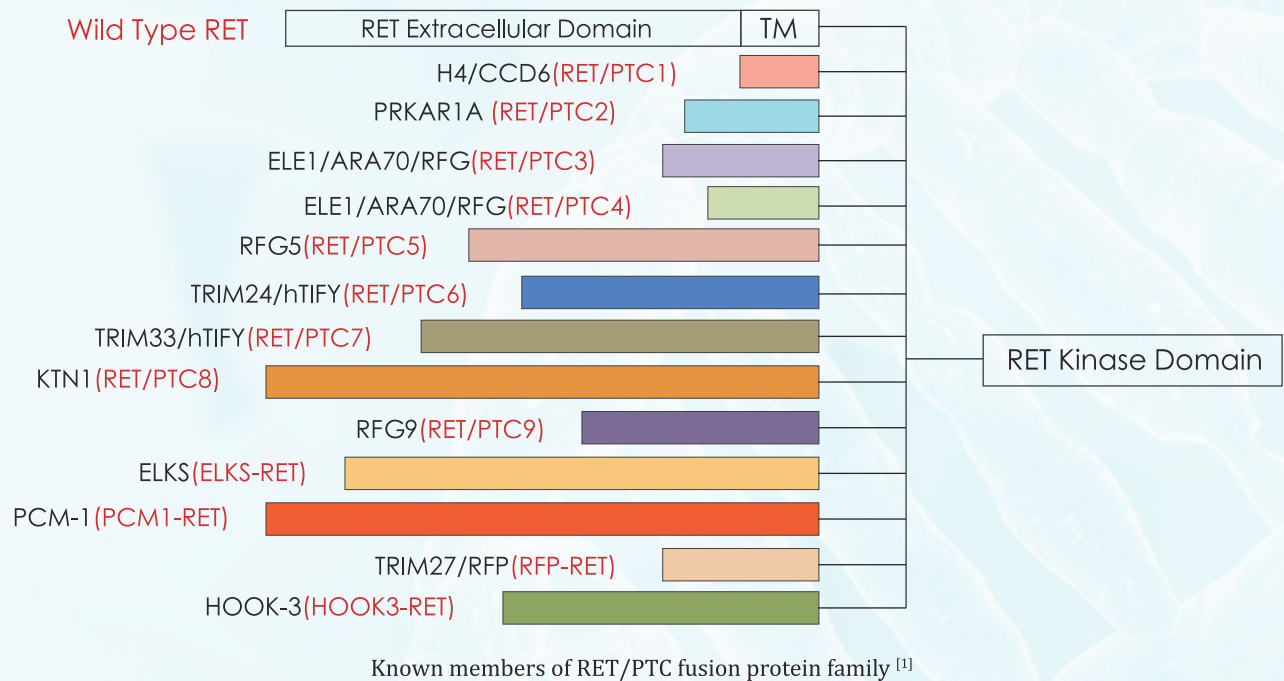


Thyroid Carcinoma RET Gene Fusions Detection Kit (Real-Time PCR assay)

MUTATIONS IN THYROID CANCER

The RET proto-oncogene is located at 10q11.2, is 60 kb in length, and contains 21 exons. After the RET gene is fused, the dimerization can be completed without ligands, resulting in the RET tyrosine kinase region, downstream MAPK、PI3K/AKT and other signal pathways are continuously activated. It continues to drive cell proliferation, migration and differentiation etc., which will cause the occurrence of tumors. RET is one of the most common driver genes for papillary thyroid carcinoma (PTC).13 different oncogenic RET/PTC fusion proteins have been discovered [1]. Among them, RET/PTC1 accounts for about 60% of RET-related PTC, RET/PTC3 accounts for about 30%, and RET/PTC2 accounts for about 10%. The remaining RET/PTC family members are extremely rare [1].



RET FUSION AND TREATMENT OF THYROID CARCINOMA

The incidence of RET/PTC fusion in sporadic PTC is 15%-20%, and the malignant diagnosis rate for Bethesda III nodules is 60%. There is no false positive, which indicates that RET/PTC fusion is a very specific marker of PTC diagnosis [2], that can assist in the diagnosis of benign and malignant thyroid FNA samples.

RET fusion also has a suggestive effect on the efficacy of targeted therapy. In 2020, the FDA successively approved Selpercatinib and Pralsetinib for the systemic treatment of RET fusion-positive thyroid cancer patients, and approved RET fusion testing as a companion diagnosis.

[1] Cancer. 2015 Jul 1;121(13):2137-46.

[2] Guangdong Expert Consensus on Gene Detection and Clinical Application of Thyroid Cancer (2020 Edition)



DETECTED GENES

Reaction Tube	Fusion Partner and Its exons	RET gene Exon	Reaction Tube	Fusion Partner and Its exons	RET gene Exon
RET-1	CCDC6 E1	E12	RET-3	PCM1 E29	E12
	NCOA4 E8			GOLGA5 E7	
	PRKAR1A E7			HOOK3 E11	
RET-2	KIF5B E15			KTN1 E29	
	KIF5B E16		RET-4	NCOA4 E6	
	KIF5B E22				
	KIF5B E23				



PRODUCT INFORMATION

Product Name	Technology	Pack Size	Instruments Validated	Sample Type
Thyroid Carcinoma RET Gene Fusions Detection Kit	Real-Time PCR assay	20 Tests/Kit	Stratagene Mx3000pTM ABI7500,etc.	Tumor tissue FNA



DETECTION SIGNIFICANCE

- » FNA samples of thyroid nodules, coarse needle puncture samples or surgical resection samples for RET gene fusion detection can help assist in the diagnosis of PTC.
- » Patients with unresectable, refractory iodine, locally recurring or metastatic thyroid carcinoma should be tested for RET gene fusion status to help guide treatments.



FEATURES & ADVANTAGES

Accuracy and Reliability: Use pre-load PCR tube to effectively avoid cross-contamination.

High Sensitivity: Sensitivity can detect as low as 100 copies of fusion mutations in RNA.

Comprehensive Coverage: Covers the 12 most common RET fusion variants in thyroid cancer.

Great Versatility: Validated on the most common qPCR machines with stable results.

DETECTION PROCESS



Tel: +86-592-7578317

Email: spacegen@ispacegen.com

www.sspacegen.com

XIAMEN SPACEGEN CO.,LTD

XIAMEN SPACESEQ MEDLAB CO.,LTD

Address: NO.2041,XizhouRoad,Xike Town, Tong'an District,Xiamen City, Fujian Province, China

SUZHOU SPACESEQ MEDLAB CO.,LTD

4th Floor, Building 1, No. 777 Kangyuan Road, Chengyang Street, Suzhou City 213000

