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Product Catalogue Number FP-279 **For clinical diagnosis and scientific research.**

C11ORF95(11q13) Gene Break Apart Probe Detection Kit

[Product Name] C11ORF95(11q13) Gene Break Apart Probe Detection Kit.

[Package Specifications] 10 Tests (100μL)/Vial.

[Intended Use]

The reagent carries out in situ hybridization staining on the basis of routine staining to provide doctors with auxiliary information for diagnosis. The test results are only for clinical reference and should not be used as the only basis for clinical diagnosis. Clinicians should comprehensively judge the test results in combination with the patient's condition, drug indications, treatment response and other laboratory test indicators.

[Detection Principle]

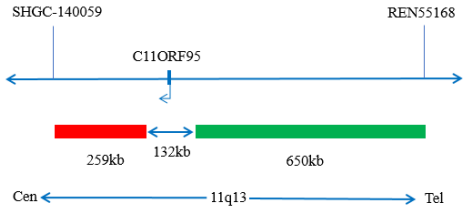
Fluorescence in situ hybridization is a technique for directly observing specific nucleic acids in cells in vitro. According to the principle of base complementary pairing, the specific probe is complementary to the target sequence in the cell. Due to the fluorescence of the probe, the gene state of the hybrid probe and the target sequence can be clearly observed under the fluorescence microscope under the appropriate excitation light.

[Product Main Components]

The kit consists of C11ORF95 dual color probe as shown in Table 1.

Table 1: Kit Composition

Component name	Specifications	Quantity	Main components
C11ORF95 dual-color probe	100μL/Tube	1	C11ORF95 Orange probe ; C11ORF95 Green probe



[Storage conditions & Validity]

Keep sealed away from light at -20°C±5°C. The product is valid until the expiry date indicated on the label. Avoid unnecessary repeated freezing and thawing that should not exceed 10 times. After opening, within 24 hours for short-term preservation, keep sealed at 2-8°C in dark. For long-term preservation after opening, keep the lid sealed at -20°C±5°C away from light. The kit is transported below 0°C.

[Applicable Instruments]

Fluorescence microscopy imaging systems, including fluorescence microscopy and filter sets suitable for DAPI (367/452), Green (495/517), and Orange (547/565).

[Sample Requirements]

1. Applicable specimen types: Paraffin-embedded specimens for surgical resection or biopsy.
2. Tissue should be fixed with 4% neutral formaldehyde fixation solution within 1 hour after in vitro, and the tissue should be fixed by conventional dehydration and paraffin embedding.

[Test Method]

1. Pre-hybridization or Pretreatment

- Baking: Slides heating at 80°C for 30min or 65°C for 2h or overnight.
- Dewaxing: According to the customer laboratory protocol (Commonly with Xylene for 15min).
- Hydration: Take out the slides and put them respectively into 100%, 85% and 70% EtOH at room temperature for 3 minutes each.
- Take out the slides, and immerse them in deionized water for 3 minutes. Remove the excess of water on the slides by air-drying.
- Permeation: Immerse the slides in deionized water at 100oC and boil continuously for 20-40 minutes (Conventional 20min). Remove the excess of water on the slides by air-drying.
- Digestion: Protease enzymic digestion at 37°C for 10-40 minutes. Mix the protease work buffer (50mmol HCl) and the 10x protease solution (Pepsin concentration 0.5%) in a proportion of 9:1 to prepare the enzymatic digestion solution.
- Washing: Wash with 2xSSC at room temperature for 5 minutes.
- Dehydration: Take out the slides and dehydrate in 70%, 85%, and 100% gradient ethanol at room temperature for 2 minutes each time.
- Drying: Remove the excess of EtOH solution on the slides by air-drying.

2. Denaturation and Hybridization

The following operations need to be carried out in the darkroom.

① Take out the probe, leave it at room temperature for 5min, turn it upside down with force, mix it well, and then centrifuge it for a short time (no vortex instrument vibration). Take 10μL of it and drop it into the cell drop hybridization area, immediately cover the cover glass of 22mm × 22mm. The probe should be evenly expanded under the cover glass without bubbles, and seal the edge with rubber glue (the edge must be completely sealed to prevent the dry piece from affecting the test results in the hybridization process).

② The cell drops were placed on the hybridizer and denatured at 85°C for 5 min (the hybridizer should be preheated to 85°C) and hybridized at 42°C for 2-16 hours.

3. Washing

The following operations need to be carried out in the darkroom.

① Carefully remove the sealing glue around the cover glass with tweezers to avoid sticking or moving the cover glass, immerse the sample in 2xSSC for about 5S, take it out, gently push a corner of the cover glass to the edge of the slide with tweezers, and gently remove the cover glass with tweezers;

② Place the sample at 2xSSC room temperature for 1 min;

③ Take out the slides and immerse in a preheated at 68°C 0.3% NP-40/0.4xSSC (Preparation of 0.3% NP-40/0.4xSSC: For 1L preparation, take 3mL NP-40 and 20mL 20xSSC, dissolve fully, mix well, and use 1M NaOH to adjust the pH to 7.2) solution and wash for 2min.

④ Take out the sample and immerse it in deionized water preheated at 37°C in advance for 1min; dry it naturally in the dark place.

4. Counterstaining

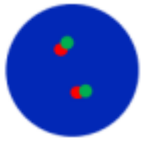
The following operations should be performed in a darkroom

10μl DAPI compound dye is dropped in the hybridization area of the glass slide and immediately covered. The suitable filter is selected for glass slide observation under the fluorescence microscope.

5. FISH Results Observation

Place the counterstained film under the fluorescence microscope, and first put it under the low-power objective lens (10x). Confirm the cell area under the microscope; Go to 40x under the objective lens, find a position where the cells are evenly distributed; Then in the high-power objective (100x) the FISH results of nuclei are observed.

[Common Signal Type Interpretation]

C11ORF95 gene site 3 signal C11ORF95 gene site 5 signal	
	**Negative:** 2 Fusion (2F)
	**Positive:** 1 Orange ; 1 Green ; 1 Fusion (1R-1G-1F)

[Test Method Limitations]

① The results of this kit will be affected by various factors of the sample itself, but also limited by hybridization temperature and time, operating environment and the limitations of current molecular biology technology, which may lead to wrong results.

② Users must understand the potential errors and accuracy limitations that may exist in the detection process.

[Precautions]

1. Please read this manual carefully before testing. The testing personnel shall receive professional technical training. The signal counting personnel must be able to observe and distinguish orange red and green signals.
2. This product is for clinical diagnosis and scientific research.
3. Please read this manual carefully before testing. The testing personnel shall receive professional technical training, and the signal counting personnel must be able to observe and distinguish orange and green signals.
4. When testing clinical samples, when the hybridization signal counting is difficult and the sample is not enough to repeat the retest or the cell volume is not enough for analysis, the test will not provide the test results.
5. DAPI counterstaining agent used in this experiment has potential toxicity or carcinogenicity, so it is necessary to operate under the fume hood, wear masks and gloves to avoid direct contact.
6. All chemicals are potentially dangerous. Avoid direct contact. Used kits are clinical waste and should be properly disposed of.

[Manuscript version and approval date]

Manual version: V1.2 reviewed on December 07, 2021.
Approval date: V.1.0 April 30, 2020.