**RARA/CEN17q FISH Probe**

Catalog #: FG0118  
Size: [ 200 uL ]

### Specification

**Product Description:** Labeled FISH probes for identification of gene amplification using Fluorescent In Situ Hybridization Technique.

**Quality Control Testing:** Representative images of human breast cancer cell stain with the dual color FISH probe. The left image is two copies of RARA gene and 2 copies of chromosome 17 in cell (normal); and the right image is 2 copies of chromosome 17, higher copy number of RARA gene (amplification).

![Representative images of human breast cancer cell stain](image)

**Storage Instruction:** Store at -20°C in the dark.

**Note:** Hybridization position of the probes on the chromosome.

![Chromosome 17](image)

**Probe 1:** RARA  
- **Size:** Approximately 169kb  
- **Fluorophore:** Orange  
- **Location:** 17q21

**Probe 2:** CEN17q  
- **Size:** Approximately 1.02kb  
- **Fluorophore:** Green  
- **Location:** 17p11.1-17q11.1

**Origin:** Human  
**Source:** Genomic DNA  
**Regulation:** For research use only (RUO)

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**Application Image**

*Fluorescent In Situ Hybridization*
Gene Information

Entrez GenelD: 5914

Gene Name: RARA

Gene Alias: NR1B1, RAR

Gene Description: retinoic acid receptor, alpha

Omim ID: 180240

Gene Ontology: [Hyperlink]

Gene Summary: Retinoid signaling is transduced by 2 families of nuclear receptors, retinoic acid receptor (RAR) and retinoid X receptor (RXR; see MIM 180245), which form RXR/RAR heterodimers. In the absence of ligand, DNA-bound RXR/RARA represses transcription by recruiting the corepressors NCOR1 (MIM 600849), SMRT (NCOR2; MIM 600848), and histone deacetylase (see MIM 601241). When ligand binds to the complex, it induces a conformational change allowing the recruitment of coactivators, histone acetyltransferases (see MIM 603053), and the basic transcription machinery. Translocations that always involve rearrangement of the RARA gene are a cardinal feature of acute promyelocytic leukemia (APL; MIM 612376). The most frequent translocation is t(15,17) (q21;q22), which fuses the RARA gene with the PML gene (MIM 102578) (Vitoux et al., 2007 [PubMed 17468032]).

Other Designations: OTTHUMP00000164454, OTTHUMP00000164456, Retinoic acid receptor, alpha polypeptide, nucleophosmin-retinoic acid receptor alpha fusion protein NPM-RAR long form

Gene Pathway

Acute myeloid leukemia Pathways in cancer

Related Disease

Alcoholism Alzheimer Disease Alzheimer disease Attention Deficit Disorder with Hyperactivity Autistic Disorder Bipolar Disorder Cardiovascular Diseases Cleft Lip Cleft Palate Diabetes Complications Diabetes Mellitus, Type 2 Disease Models, Animal Drug Toxicity Edema Genetic Predisposition to Disease Hypercholesterolemia Liver Cirrhosis Mental Disorders Metabolic Syndrome X