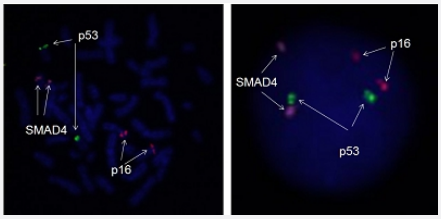
p16/p53/SMAD4 FISH Probe

Catalog # FG0227 Size 200 uL

Applications



Hybridization position of the probes on the chromosome.

Hybridization position of the probes on the chromosome.

Specification

Probe 2	**Name:** p53 **Size:** Approximately 190kb **Fluorophore:** FITC **Location:** 17p13.1
Product Description	Labeled FISH probes for identification of gene amplification using Fluorescent In Situ Hybridization T echnique. (Technology).
Probe 1	**Name:** p16 **Size:** Approximately 110kb **Fluorophore:** TexRed **Location:** 9p21

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Probe 3	**Name:** SMAD4 **Size:** Approximately 250kb **Fluorophore:** Cy5 **Location:** 18q21.2
Origin	Human
Source	Genomic DNA
Reactivity	Human
Notice	We **strongly recommend** the customer to use FFPE FISH PreTreatment Kit 1 (Catalog #: KA2375 or KA2691) for the pretreatment of Formalin-Fixed Paraffin-Embedded (FFPE) tissue sections.
Regulation Status	For research use only (RUO)
Quality Control Testing	Representative images of normal human cell (lymphocyte) stain with the triple color FISH probe. The l eft image is chromosomes at metaphase, and the right image is an interphase nucleus.
Supplied Products	DAPI Counterstain (1500 ng/mL) 250 uL
Storage Instruction	Store at 4°C in the dark.
Note	Hybridization position of the probes on the chromosome. Hybridization position of the probes on the chromosome.
Self-Attestation	Abnova self-attests to comply with the U.S. Framework for Nucleic Acid Synthesis Screening

Applications

- Fluorescent In Situ Hybridization (Cell)

  Protocol Download

Gene Info — CDKN2A

Entrez GeneID	1029
Gene Name	CDKN2A
Gene Alias	ARF, CDK4I, CDKN2, CMM2, INK4, INK4a, MLM, MTS1, TP16, p14, p14ARF, p16, p16INK4, p16INK4a, p19
Gene Description	cyclin-dependent kinase inhibitor 2A (melanoma, p16, inhibits CDK4)
Omim ID	151623 155601 155755 600160 606719

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Gene Ontology	Hyperlink
Gene Summary	This gene generates several transcript variants which differ in their first exons. At least three alternatively spliced variants encoding distinct proteins have been reported, two of which encode structurally related isoforms known to function as inhibitors of CDK4 kinase. The remaining transcript includes an alternate first exon located 20 Kb upstream of the remainder of the gene; this transcript contains an alternate open reading frame (ARF) that specifies a protein which is structurally unrelated to the products of the other variants. This ARF product functions as a stabilizer of the tumor suppressor protein p53 as it can interact with, and sequester, MDM1, a protein responsible for the degradation of p53. In spite of the structural and functional differences, the CDK inhibitor isoforms and the ARF product encoded by this gene, through the regulatory roles of CDK4 and p53 in cell cycle G1 progression, share a common functionality in cell cycle G1 control. This gene is frequently mutated or deleted in a wide variety of tumors, and is known to be an important tumor suppressor gene. [provided by RefSeq
Other Designations	CDK4 inhibitor p16-INK4|OTTHUMP00000021147|OTTHUMP00000021148|cell cycle negative regulator beta|cyclin-dependent kinase inhibitor 2A|cyclin-dependent kinase inhibitor p16|multiple tumor suppressor 1

Gene Info — SMAD4

Entrez GeneID	4089
Gene Name	SMAD4
Gene Alias	DPC4, JIP, MADH4
Gene Description	SMAD family member 4
Omim ID	174900 175050 600993
Gene Ontology	Hyperlink
Gene Summary	mothers against decapentaplegic homolog 4|OTTHUMP00000163548|SMAD
Other Designations	MAD, mothers against decapentaplegic homolog 4|OTTHUMP00000163548|SMAD, mothers against DPP homolog 4|deleted in pancreatic carcinoma locus 4|mothers against decapentaplegic homolog 4|mothers against decapentaplegic, Drosophila, homolog of, 4

Gene Info — TP53

Entrez GeneID	7157
Gene Name	TP53
Gene Alias	FLJ92943, LFS1, TRP53, p53
Gene Description	tumor protein p53

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Omim ID	114480 114500 114550 151623 161550 191170 202300 260350
Gene Ontology	Hyperlink
Gene Summary	This gene encodes tumor protein p53, which responds to diverse cellular stresses to regulate target genes that induce cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. p53 protein is expressed at low level in normal cells and at a high level in a variety of transformed cell lines, where it's believed to contribute to transformation and malignancy. p53 is a DNA-binding protein containing transcription activation, DNA-binding, and oligomerization domains. It is postulated to bind to a p53-binding site and activate expression of downstream genes that inhibit growth and/or invasion, and thus function as a tumor suppressor. Mutants of p53 that frequently occur in a number of different human cancers fail to bind the consensus DNA binding site, and hence cause the loss of tumor suppressor activity. Alterations of this gene occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome. Multiple p53 variants due to alternative promoters and multiple alternative splicing have been found. These variants encode distinct isoforms, which can regulate p53 transcriptional activity. [provided by RefSeq
Other Designations	p53 antigen|p53 transformation suppressor|p53 tumor suppressor|phosphoprotein p53|transformation-related protein 53

Pathway

- Adherens junction
- Amyotrophic lateral sclerosis (ALS)
- Apoptosis
- Basal cell carcinoma
- Bladder cancer
- Bladder cancer
- Cell cycle
- Cell cycle
- Cell cycle
- Chronic myeloid leukemia
- Chronic myeloid leukemia
- Chronic myeloid leukemia
- Colorectal cancer

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- Colorectal cancer
- Endometrial cancer
- Glioma
- Glioma
- MAPK signaling pathway
- Melanoma
- Melanoma
- Neurotrophin signaling pathway
- Non-small cell lung cancer
- Non-small cell lung cancer
- p53 signaling pathway
- p53 signaling pathway
- Pancreatic cancer
- Pancreatic cancer
- Pancreatic cancer
- Pathways in cancer
- Pathways in cancer
- Pathways in cancer
- Prostate cancer
- Small cell lung cancer
- TGF-beta signaling pathway
- Thyroid cancer
- Wnt signaling pathway
- Wnt signaling pathway

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Disease

- Abortion
- Acquired Hyperostosis Syndrome
- Acute Disease
- Adenocarcinoma
- Adenocarcinoma
- Adenocarcinoma
- Adenoma
- Adenomatous Polyposis Coli
- Adenomatous Polyposis Coli
- Adrenal Cortex Neoplasms
- Albuminuria
- Alcoholism
- Alzheimer disease
- Alzheimer disease
- Ameloblastoma
- Aneuploidy
- Aneuploidy
- Anoxia
- Anus Neoplasms
- Arsenic Poisoning
- Arthritis
- Asthma
- Astrocytoma

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- Ataxia telangiectasia
- Ataxia telangiectasia
- Atherosclerosis
- Atherosclerosis
- Autoimmune Diseases
- Azoospermia
- Balkan Nephropathy
- Barrett Esophagus
- Barrett Esophagus
- Bile Duct Neoplasms
- Bipolar Disorder
- Birth Weight
- Bone Neoplasms
- Brain Infarction
- Brain Injuries
- Brain Ischemia
- Brain Ischemia
- Brain Neoplasms
- Brain Neoplasms
- Breast cancer
- Breast cancer
- Breast Neoplasms
- Breast Neoplasms
- Calcinosis
- Carcinoma
- Carcinoma

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- Carcinoma
- Carcinoma in Situ
- Cardiovascular Diseases
- Cardiovascular Diseases
- Cardiovascular Diseases
- Carotid Artery Diseases
- Carotid Artery Thrombosis
- Cell Transformation
- Cerebellar Neoplasms
- Cerebral Infarction
- Cervical Intraepithelial Neoplasia
- Chagas Disease
- Chagas Disease
- Cholangiocarcinoma
- Cholangitis
- Cholecystitis
- Choriocarcinoma
- Choroid Plexus Neoplasms
- Chromosomal Instability
- Chromosomal Instability
- Chromosome Aberrations
- Chromosome Aberrations
- Chromosome Deletion
- Chromosome Deletion
- Chronic Disease
- Chronic Disease

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- Cicatrix
- Cleft Lip
- Cleft Palate
- Cocarcinogenesis
- Cognition Disorders
- Colitis
- Colon cancer
- Colon cancer
- Colon cancer
- Colonic Neoplasms
- Colonic Neoplasms
- Colonic Neoplasms
- Colorectal Neoplasms
- Colorectal Neoplasms
- Colorectal Neoplasms
- Condylomata Acuminata
- Conjunctival Neoplasms
- Constriction
- Coronary Artery Disease
- Coronary Artery Disease
- Coronary Disease
- Coronary Disease
- Coronary Restenosis
- Craniocerebral Trauma
- Crohn Disease
- Cystadenocarcinoma

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- Cystadenocarcinoma
- Delayed Graft Function
- Depressive Disorder
- Diabetes
- Diabetes Complications
- Diabetes Mellitus
- Diabetes Mellitus
- Diabetes Mellitus
- Diabetic Nephropathies
- Diabetic Nephropathies
- Digestive System Neoplasms
- Disease Models
- Disease Progression
- Disease Progression
- Disease Susceptibility
- Disease Susceptibility
- DNA Damage
- Down Syndrome
- Duodenal Ulcer
- Dysplastic Nevus Syndrome
- Eczema
- Edema
- Edema
- Ehlers-Danlos Syndrome
- Endometrial Hyperplasia
- Endometrial Neoplasms

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- Endometriosis
- Epidermodysplasia Verruciformis
- Epstein-Barr Virus Infections
- Esophageal Neoplasms
- Esophageal Neoplasms
- Eye Neoplasms
- Fallopian Tube Neoplasms
- Fetal Diseases
- Gallbladder Neoplasms
- Ganglioglioma
- Gastritis
- Gastroesophageal Reflux
- Gastrointestinal Neoplasms
- Gastrointestinal Neoplasms
- Gastrointestinal Stromal Tumors
- Genetic Diseases
- Genetic Predisposition to Disease
- Genetic Predisposition to Disease
- Genetic Predisposition to Disease
- Genital Neoplasms
- Genomic Instability
- Glaucoma
- Glioblastoma
- Glioblastoma
- Glioma
- Glioma

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- Glucose Intolerance
- Glucose Metabolism Disorders
- Graft Occlusion
- Graves Disease
- Hashimoto Disease
- Head and Neck Neoplasms
- Head and Neck Neoplasms
- Heart Diseases
- Helicobacter Infections
- Hematologic Diseases
- Hemochromatosis
- Hemorrhage
- Hepatitis B
- Hepatitis C
- Herpes Simplex
- HIV Infections
- HIV Infections
- Hodgkin Disease
- Hydatidiform Mole
- Hyperglycemia
- Hyperlipidemias
- Hyperlipoproteinemia Type II
- Hypersensitivity
- Hypertension
- Hypertension
- Hypopharyngeal Neoplasms

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- Hypotension
- Infertility
- Inflammation
- Inflammatory Bowel Diseases
- Insulin Resistance
- Intestinal Neoplasms
- Intestinal Polyposis
- Intestinal Polyps
- Intracranial Aneurysm
- Intracranial Thrombosis
- Keloid
- Keratosis
- Kidney Failure
- Kidney Failure
- Kidney Failure
- Kidney Neoplasms
- Laryngeal Neoplasms
- Laryngeal Neoplasms
- Leber hereditary optic neuropathy
- Leiomyoma
- Leukemia
- Leukemia
- Leukoplakia
- Leukoplakia
- Lichen Planus
- Li-Fraumeni Syndrome

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- Lissencephaly
- Liver Cirrhosis
- Liver Cirrhosis
- Liver Cirrhosis
- Liver Neoplasms
- Low Tension Glaucoma
- Lung Neoplasms
- Lung Neoplasms
- Lupus Erythematosus
- Lupus Nephritis
- Lymphatic Metastasis
- Lymphoma
- Lymphoma
- Lymphoproliferative Disorders
- Malignant melanoma
- Malignant melanoma
- Malnutrition
- Medulloblastoma
- Melanoma
- Melanoma
- Meningeal Neoplasms
- Meningeal Neoplasms
- Meningioma
- Meningioma
- Mental Retardation

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- Metaplasia
- Microsatellite Instability
- Microsatellite Instability
- Microsatellite Instability
- Mouth Neoplasms
- Mouth Neoplasms
- Multiple endocrine neoplasia
- Multiple Endocrine Neoplasia Type 1
- Multiple Myeloma
- Multiple Myeloma
- Multiple Sclerosis
- Myelodysplastic Syndromes
- Myelodysplastic Syndromes
- Myocardial Infarction
- Nasopharyngeal Neoplasms
- Nasopharyngeal Neoplasms
- Neoplasm Invasiveness
- Neoplasm Invasiveness
- Neoplasm Metastasis
- Neoplasm Recurrence
- Neoplasm Recurrence
- Neoplasms
- Neoplasms
- Neoplasms
- Neoplastic Syndromes
- Nerve Sheath Neoplasms

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- Neural Tube Defects
- Neurilemmoma
- Neuroectodermal Tumors
- Neurofibroma
- Neurofibromatosis
- Neurofibromatosis 2
- Neuroma
- Neuroma
- Neuropsychological Tests
- Neutropenia
- Nevus
- Nijmegen Breakage Syndrome
- Nose Neoplasms
- Obesity
- Obesity
- Obesity
- Occupational Diseases
- Occupational Diseases
- Ocular Hypertension
- Oligodendroglioma
- Oligospermia
- Optic Atrophy
- Oral Submucous Fibrosis
- Oropharyngeal Neoplasms
- Osteoarthritis
- Osteoporosis

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- Osteosarcoma
- Ovarian cancer
- Ovarian cancer
- Ovarian Failure
- Ovarian Neoplasms
- Ovarian Neoplasms
- Pancreatic cancer
- Pancreatic cancer
- Pancreatic cancer
- Pancreatic Neoplasms
- Pancreatic Neoplasms
- Pancreatic Neoplasms
- Papilloma
- Papillomavirus Infections
- Pemphigus
- Penile Neoplasms
- Peptic Ulcer
- Periodontitis
- Peritoneal Neoplasms
- Peutz-Jeghers Syndrome
- Pharyngeal Neoplasms
- Pharyngeal Neoplasms
- Polycystic Ovary Syndrome
- Polyps
- Postoperative Complications
- Precancerous Conditions

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- Precancerous Conditions
- Precancerous Conditions
- Prostate cancer
- Prostate cancer
- Prostatic Hyperplasia
- Prostatic Intraepithelial Neoplasia
- Prostatic Neoplasms
- Prostatic Neoplasms
- Psoriasis
- Pterygium
- Puberty
- Pulmonary Disease
- Pulmonary Disease
- Pulmonary Fibrosis
- Radiation Injuries
- Radiodermatitis
- Rectal Neoplasms
- Rectal Neoplasms
- Recurrence
- Retinoblastoma
- Rhinitis
- Roseolovirus Infections
- Sarcoma
- Schizophrenia
- Schizophrenia
- Skin Diseases

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- Skin Neoplasms
- Skin Neoplasms
- Small Cell Lung Carcinoma
- Spinal Dysraphism
- Starvation
- Stomach Neoplasms
- Stomach Neoplasms
- Stomach Neoplasms
- Stomach Ulcer
- Stroke
- Subarachnoid Hemorrhage
- Substance-Related Disorders
- Sunburn
- Sunburn
- Telangiectasia
- Testicular Neoplasms
- The p53 tumor suppressor protein
- Thrombophilia
- Thyroid Diseases
- Thyroid Neoplasms

- Thyroid Neoplasms
- Thyroiditis
- Tobacco Use Disorder
- Tobacco Use Disorder
- Tongue Neoplasms

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- Tumor Virus Infections
- Uremia
- Urinary Bladder Neoplasms
- Urinary Bladder Neoplasms
- Urologic Diseases
- Uterine Cervical Diseases
- Uterine Cervical Dysplasia
- Uterine Cervical Neoplasms
- Uterine Neoplasms
- Uveal Neoplasms
- Vascular Diseases
- Waldenstrom Macroglobulinemia
- Wegener Granulomatosis
- Weight Gain
- Werner syndrome
- Werner syndrome
- Wolfram Syndrome

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