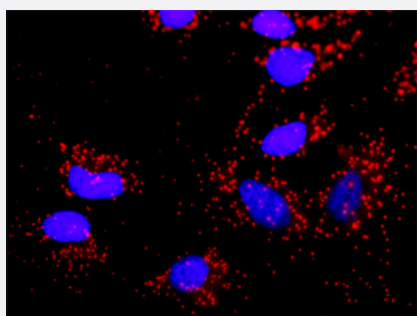


TP53 & SMAD2 Protein Protein Interaction Antibody Pair

Catalog # DI0251

Size 1 Set

Applications



Representative image of Proximity Ligation Assay of protein-protein interactions between TP53 and SMAD2. HeLa cells were stained with anti-TP53 rabbit purified polyclonal antibody 1:1200 and anti-SMAD2 mouse monoclonal antibody 1:50. Each red dot represents the detection of protein-protein interaction complex. The images were analyzed using an optimized freeware (BlobFinder) download from The Centre for Image Analysis at Uppsala University.

Specification

Product Description

This protein protein interaction antibody pair set comes with two antibodies to detect the protein-protein interaction, one against the TP53 protein, and the other against the SMAD2 protein for use in [in situ Proximity Ligation Assay](#). [See Publication Reference below](#).

Reactivity

Human

Quality Control Testing

Protein protein interaction immunofluorescence result.
Representative image of Proximity Ligation Assay of protein-protein interactions between TP53 and SMAD2. HeLa cells were stained with anti-TP53 rabbit purified polyclonal antibody 1:1200 and anti-SMAD2 mouse monoclonal antibody 1:50. Each red dot represents the detection of protein-protein interaction complex. The images were analyzed using an optimized freeware (BlobFinder) download from The Centre for Image Analysis at Uppsala University.

Supplied Product

Antibody pair set content:
1. TP53 rabbit purified polyclonal antibody (100 ug)
2. SMAD2 mouse monoclonal antibody (40 ug)
*Reagents are sufficient for at least 30-50 assays using recommended protocols.

Storage Instruction

Store reagents of the antibody pair set at -20°C or lower. Please aliquot to avoid repeated freeze-thaw cycle. Reagents should be returned to -20°C storage immediately after use.

Applications

- *In situ* Proximity Ligation Assay (Cell)

Gene Info — SMAD2

Entrez GeneID [4087](#)

Gene Name SMAD2

Gene Alias JV18, JV18-1, MADH2, MADR2, MGC22139, MGC34440, hMAD-2, hSMAD2

Gene Description SMAD family member 2

Omim ID [601366](#)

Gene Ontology [Hyperlink](#)

Gene Summary

The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also be phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin. Alternatively spliced transcript variants encoding the same protein have been observed. [provided by RefSeq]

Other Designations

MAD, mothers against decapentaplegic homolog 2|Mad protein homolog|Mad, mothers against decapentaplegic homolog 2|Mad-related protein 2|SMAD, mothers against DPP homolog 2|Sma- and Mad-related protein 2|mother against DPP homolog 2

Gene Info — TP53

Entrez GeneID [7157](#)

Gene Name TP53

Gene Alias FLJ92943, LFS1, TRP53, p53

Gene Description tumor protein p53

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](#)
- [Cell cycle](#)
- [Cell cycle](#)
- [Chronic myeloid leukemia](#)
- [Colorectal cancer](#)
- [Colorectal cancer](#)
- [Endometrial cancer](#)
- [Glioma](#)
- [MAPK signaling pathway](#)
- [Melanoma](#)

- [Neurotrophin signaling pathway](#)
- [Non-small cell lung cancer](#)
- [p53 signaling pathway](#)
- [Pancreatic cancer](#)
- [Pancreatic 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](#)

Disease

- [Abortion](#)
- [Acquired Hyperostosis Syndrome](#)
- [Acute Disease](#)
- [Adenocarcinoma](#)
- [Adenocarcinoma](#)
- [Adenoma](#)
- [Adenomatous Polyposis Coli](#)
- [Adrenal Cortex Neoplasms](#)
- [Albuminuria](#)
- [Alcoholism](#)
- [Alzheimer disease](#)

- [Ameloblastoma](#)
- [Aneuploidy](#)
- [Anoxia](#)
- [Anus Neoplasms](#)
- [Arsenic Poisoning](#)
- [Arthritis](#)
- [Astrocytoma](#)
- [Ataxia telangiectasia](#)
- [Atherosclerosis](#)
- [Autoimmune Diseases](#)
- [Azoospermia](#)
- [Balkan Nephropathy](#)
- [Barrett Esophagus](#)
- [Bipolar Disorder](#)
- [Bone Neoplasms](#)
- [Brain Infarction](#)
- [Brain Injuries](#)
- [Brain Ischemia](#)
- [Brain Neoplasms](#)
- [Breast cancer](#)
- [Breast Neoplasms](#)
- [Carcinoma](#)
- [Carcinoma in Situ](#)
- [Cardiovascular Diseases](#)
- [Carotid Artery Diseases](#)
- [Carotid Artery Thrombosis](#)

- [Cell Transformation](#)
- [Cerebellar Neoplasms](#)
- [Cerebral Infarction](#)
- [Cervical Intraepithelial Neoplasia](#)
- [Chagas Disease](#)
- [Cholecystitis](#)
- [Choriocarcinoma](#)
- [Choroid Plexus Neoplasms](#)
- [Chromosomal Instability](#)
- [Chromosome Aberrations](#)
- [Chromosome Deletion](#)
- [Chronic Disease](#)
- [Cicatrix](#)
- [Cleft Lip](#)
- [Cleft Palate](#)
- [Cocarcinogenesis](#)
- [Cognition Disorders](#)
- [Colitis](#)
- [Colitis](#)
- [Colon cancer](#)
- [Colonic Neoplasms](#)
- [Colorectal Neoplasms](#)
- [Colorectal Neoplasms](#)
- [Condylomata Acuminata](#)
- [Conjunctival Neoplasms](#)
- [Constriction](#)

- [Coronary Artery Disease](#)
- [Coronary Disease](#)
- [Coronary Restenosis](#)
- [Craniocerebral Trauma](#)
- [Crohn Disease](#)
- [Cystadenocarcinoma](#)
- [Delayed Graft Function](#)
- [Depressive Disorder](#)
- [Diabetes Mellitus](#)
- [Diabetic Nephropathies](#)
- [Digestive System Neoplasms](#)
- [Disease Progression](#)
- [Disease Susceptibility](#)
- [DNA Damage](#)
- [Down Syndrome](#)
- [Duodenal Ulcer](#)
- [Edema](#)
- [Ehlers-Danlos Syndrome](#)
- [Endometrial Hyperplasia](#)
- [Endometrial Neoplasms](#)
- [Endometriosis](#)
- [Epidermodysplasia Verruciformis](#)
- [Epstein-Barr Virus Infections](#)
- [Esophageal Neoplasms](#)
- [Esophageal Neoplasms](#)
- [Fallopian Tube Neoplasms](#)

- [Gallbladder Neoplasms](#)
- [Ganglioglioma](#)
- [Gastritis](#)
- [Gastroesophageal Reflux](#)
- [Gastrointestinal Neoplasms](#)
- [Gastrointestinal Stromal Tumors](#)
- [Genetic Diseases](#)
- [Genetic Predisposition to Disease](#)
- [Genetic Predisposition to Disease](#)
- [Genital Neoplasms](#)
- [Genomic Instability](#)
- [Glaucoma](#)
- [Glioblastoma](#)
- [Glioma](#)
- [Graft Occlusion](#)
- [Graves Disease](#)
- [Hashimoto Disease](#)
- [Head and Neck Neoplasms](#)
- [Helicobacter Infections](#)
- [Hematologic Diseases](#)
- [Hepatitis B](#)
- [Hepatitis C](#)
- [Herpes Simplex](#)
- [HIV Infections](#)
- [Hodgkin Disease](#)

- [Hydatidiform Mole](#)
- [Hypertension](#)
- [Hypopharyngeal Neoplasms](#)
- [Hypotension](#)
- [Infertility](#)
- [Inflammation](#)
- [Inflammatory Bowel Diseases](#)
- [Inflammatory Bowel Diseases](#)
- [Intestinal Neoplasms](#)
- [Intracranial Thrombosis](#)
- [Keloid](#)
- [Keratosi](#)
- [Kidney Failure](#)
- [Kidney Neoplasms](#)
- [Laryngeal Neoplasms](#)
- [Leber hereditary optic neuropathy](#)
- [Leiomyoma](#)
- [Leukemia](#)
- [Leukoplakia](#)
- [Lichen Planus](#)
- [Li-Fraumeni Syndrome](#)
- [Lissencephaly](#)
- [Liver Cirrhosis](#)
- [Liver Cirrhosis](#)
- [Liver Neoplasms](#)
- [Low Tension Glaucoma](#)
- [Lung Neoplasms](#)

- [Lupus Erythematosus](#)
- [Lupus Nephritis](#)
- [Lymphatic Metastasis](#)
- [Lymphoma](#)
- [Lymphoproliferative Disorders](#)
- [Malignant melanoma](#)
- [Medulloblastoma](#)
- [Melanoma](#)
- [Meningeal Neoplasms](#)
- [Meningioma](#)
- [Mental Retardation](#)
- [Metaplasia](#)
- [Microsatellite Instability](#)
- [Mouth Neoplasms](#)
- [Multiple Myeloma](#)
- [Multiple Sclerosis](#)
- [Myelodysplastic Syndromes](#)
- [Nasopharyngeal Neoplasms](#)
- [Neoplasm Invasiveness](#)
- [Neoplasm Metastasis](#)
- [Neoplasm Recurrence](#)
- [Neoplasms](#)
- [Nerve Sheath Neoplasms](#)
- [Neural Tube Defects](#)
- [Neurilemmoma](#)
- [Neuroectodermal Tumors](#)

- [Neurofibroma](#)
- [Neurofibromatosis](#)
- [Neurofibromatosis 2](#)
- [Neuroma](#)
- [Neuropsychological Tests](#)
- [Neutropenia](#)
- [Nijmegen Breakage Syndrome](#)
- [Nose Neoplasms](#)
- [Obesity](#)
- [Obesity](#)
- [Occupational Diseases](#)
- [Ocular Hypertension](#)
- [Oligodendroglioma](#)
- [Oligospermia](#)
- [Optic Atrophy](#)
- [Oral Submucous Fibrosis](#)
- [Oropharyngeal Neoplasms](#)
- [Osteoarthritis](#)
- [Osteoporosis](#)
- [Osteosarcoma](#)
- [Ovarian cancer](#)
- [Ovarian Failure](#)
- [Ovarian Neoplasms](#)
- [Pancreatic cancer](#)
- [Pancreatic cancer](#)
- [Pancreatic Neoplasms](#)

- [Pancreatic Neoplasms](#)
- [Papilloma](#)
- [Papillomavirus Infections](#)
- [Pemphigus](#)
- [Penile Neoplasms](#)
- [Peptic Ulcer](#)
- [Peritoneal Neoplasms](#)
- [Pharyngeal Neoplasms](#)
- [Polycystic Ovary Syndrome](#)
- [Postoperative Complications](#)
- [Precancerous Conditions](#)
- [Prostate cancer](#)
- [Prostatic Hyperplasia](#)
- [Prostatic Intraepithelial Neoplasia](#)
- [Prostatic Neoplasms](#)
- [Psoriasis](#)
- [Pterygium](#)
- [Puberty](#)
- [Pulmonary Disease](#)
- [Pulmonary Fibrosis](#)
- [Radiation Injuries](#)
- [Radiodermatitis](#)
- [Rectal Neoplasms](#)
- [Recurrence](#)
- [Roseolovirus Infections](#)
- [Sarcoma](#)

- [Schizophrenia](#)
- [Skin Diseases](#)
- [Skin Neoplasms](#)
- [Small Cell Lung Carcinoma](#)
- [Spinal Dysraphism](#)
- [Stomach Neoplasms](#)
- [Stomach Ulcer](#)
- [Subarachnoid Hemorrhage](#)
- [Substance-Related Disorders](#)
- [Sunburn](#)
- [The p53 tumor suppressor protein](#)
- [Thrombophilia](#)
- [Thyroid Diseases](#)
- [Thyroid Neoplasms](#)
- [Thyroiditis](#)
- [Tobacco Use Disorder](#)
- [Tobacco Use Disorder](#)
- [Tongue Neoplasms](#)
- [Tumor Virus Infections](#)
- [Uremia](#)
- [Urinary Bladder Neoplasms](#)
- [Urologic Diseases](#)
- [Uterine Cervical Diseases](#)
- [Uterine Cervical Dysplasia](#)
- [Uterine Cervical Neoplasms](#)

- [Uterine Neoplasms](#)
- [Waldenstrom Macroglobulinemia](#)
- [Wegener Granulomatosis](#)
- [Werner syndrome](#)