10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody

Catalog # ABO13787

Specification

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	Q12888
Host	**Rabbit**
Isotype	**Rabbit IgG**
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody - Additional Information

Gene ID 7158

Other Names
TP53-binding protein 1, 53BP1, p53-binding protein 1, p53BP1, TP53BP1 (HGNC:11999)

Calculated MW
213574 MW KDa

Application Details
WB 1:500-1:2000
IHC 1:50-1:200
ICC/IF 1:50-1:200
FC 1:50

Subcellular Localization
Nucleus. Chromosome, centromere, kinetochore. Associated with kinetochores. Both nuclear and cytoplasmic in some cells. Recruited to sites of DNA damage, such as double stand breaks. H4K20me2 is required for efficient localization to double strand breaks and removal of proteins that have a high affinity for H4K20me2 such as L3MBTL1 and KDM4A is needed.

Contents
Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen
A synthesized peptide derived from human 53BP1

Purification
Affinity-chromatography

Storage	**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for**

up to one month. Avoid repeated freeze-thaw cycles.

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody - Protein Information

Name TP53BP1 (HGNC:11999)

Function
Double-strand break (DSB) repair protein involved in response to DNA damage, telomere dynamics and class-switch recombination (CSR) during antibody genesis (PubMed:12364621, PubMed:17190600, PubMed:21144835, PubMed:22553214, PubMed:23333306, PubMed:27153538, PubMed:28241136, PubMed:31135337, PubMed:37696958). Plays a key role in the repair of double-strand DNA breaks (DSBs) in response to DNA damage by promoting non-homologous end joining (NHEJ)-mediated repair of DSBs and specifically counteracting the function of the homologous recombination (HR) repair protein BRCA1 (PubMed:22553214, PubMed:23333306, PubMed:23727112, PubMed:27153538, PubMed:31135337). In response to DSBs, phosphorylation by ATM promotes interaction with RIF1 and dissociation from NUDT16L1/TIRR, leading to recruitment to DSBs sites (PubMed:28241136). Recruited to DSBs sites by recognizing and binding histone H2A monoubiquitinated at 'Lys-15' (H2AK15Ub) and histone H4 dimethylated at 'Lys-20' (H4K20me2), two histone marks that are present at DSBs sites (PubMed:17190600, PubMed:23760478, PubMed:27153538, PubMed:28241136). Required for immunoglobulin class- switch recombination (CSR) during antibody genesis, a process that involves the generation of DNA DSBs (PubMed:23345425). Participates in the repair and the orientation of the broken DNA ends during CSR (By similarity). In contrast, it is not required for classic NHEJ and V(D)J recombination (By similarity). Promotes NHEJ of dysfunctional telomeres via interaction with PAXIP1 (PubMed:23727112).

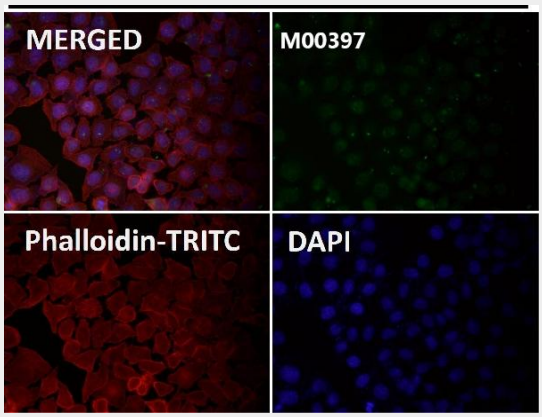
Cellular Location
Nucleus. Chromosome. Chromosome, centromere, kinetochore {ECO:0000250|UniProtKB:P70399}. Note=Localizes to the nucleus in absence of DNA damage (PubMed:28241136). Following DNA damage, recruited to sites of DNA damage, such as double stand breaks (DSBs): recognizes and binds histone H2A monoubiquitinated at 'Lys-15' (H2AK15Ub) and histone H4 dimethylated at 'Lys-20' (H4K20me2), two histone marks that are present at DSBs sites (PubMed:17190600, PubMed:23333306, PubMed:23760478, PubMed:24703952, PubMed:28241136, PubMed:31135337, PubMed:37696958). Associated with kinetochores during mitosis (By similarity). {ECO:0000250|UniProtKB:P70399, ECO:0000269|PubMed:17190600, ECO:0000269|PubMed:23333306, ECO:0000269|PubMed:23760478, ECO:0000269|PubMed:28241136, ECO:0000269|PubMed:37696958}

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody - Protocols

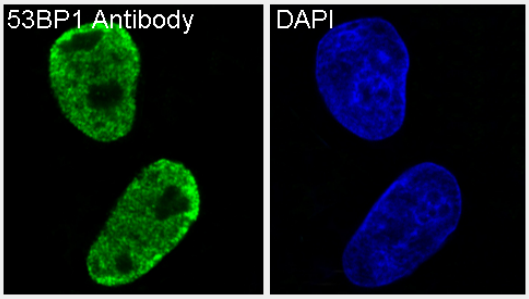
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-53BP1 TP53BP1 Rabbit Monoclonal Antibody - Images



Immunofluorescent analysis using the Antibody at 1:50 dilution.



Immunofluorescent analysis of HepG2 cells, using 53BP1 Antibody .

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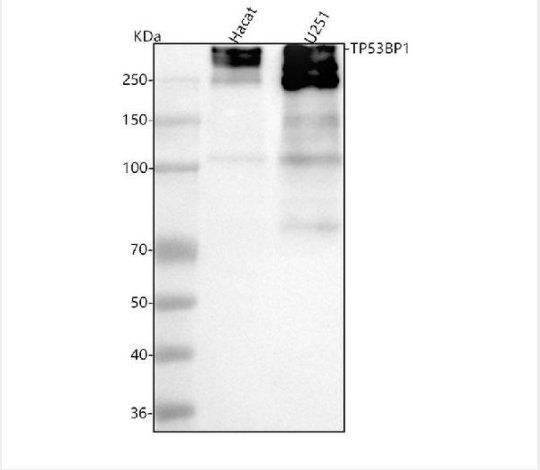

Figure 1. Western blot analysis of 53BP1 using anti-53BP1 antibody (M00397).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hacat whole cell lysates,
Lane 2: human U251 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-53BP1 antigen affinity purified monoclonal antibody (Catalog # M00397) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for 53BP1 at approximately 450 kDa. The expected band size for 53BP1 is at 214 kDa.

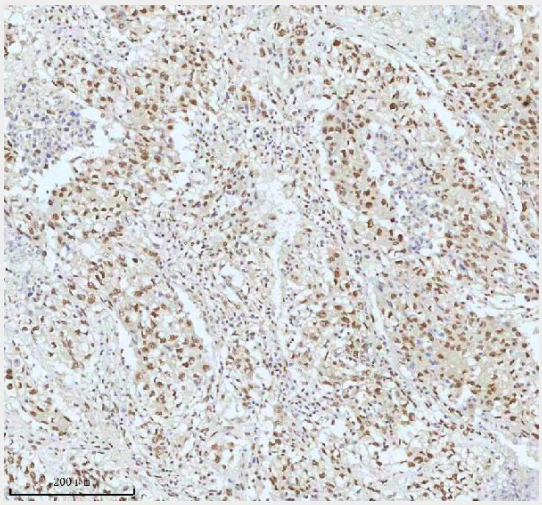

Figure 2. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human acinic cell carcinoma of parotid tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

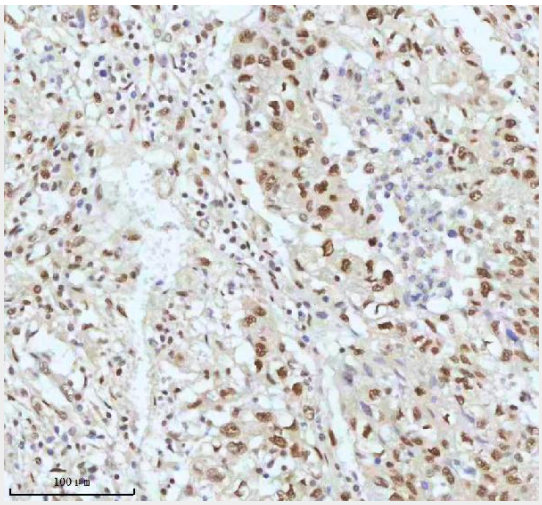

Figure 3. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human acinic cell carcinoma of parotid tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

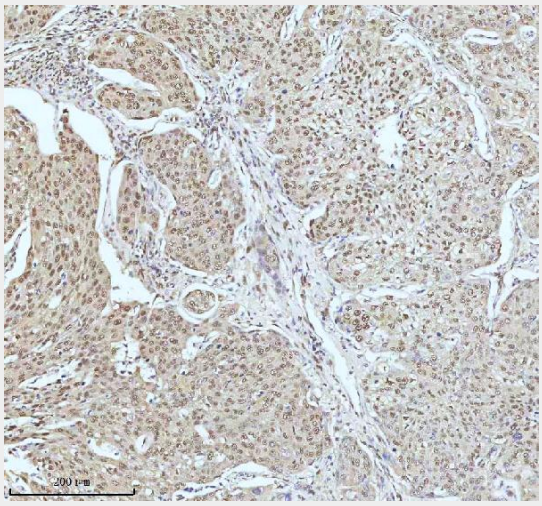

Figure 4. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

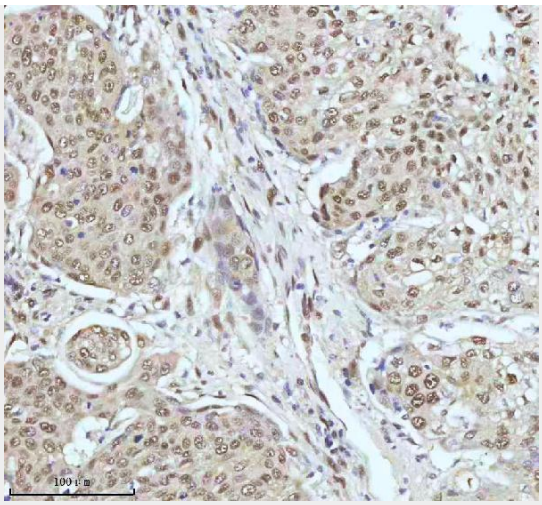

Figure 5. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human cervical cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

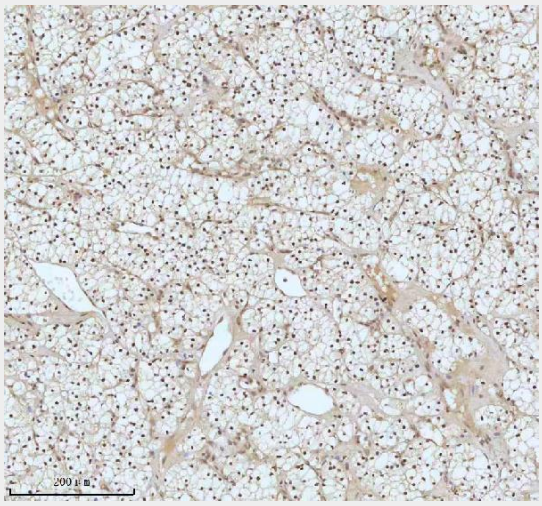

Figure 6. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human clear cell renal cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

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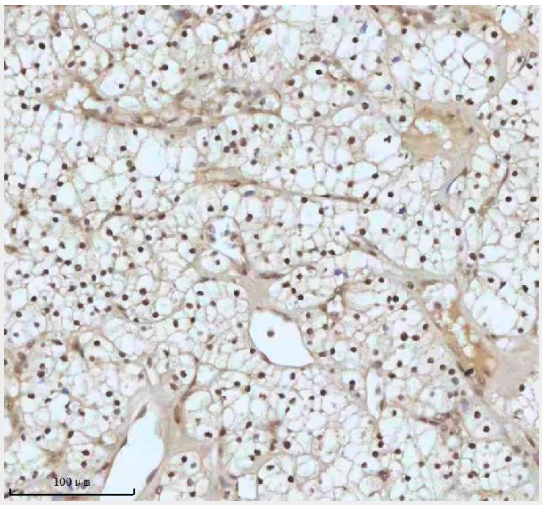

Figure 7. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human clear cell renal cell carcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

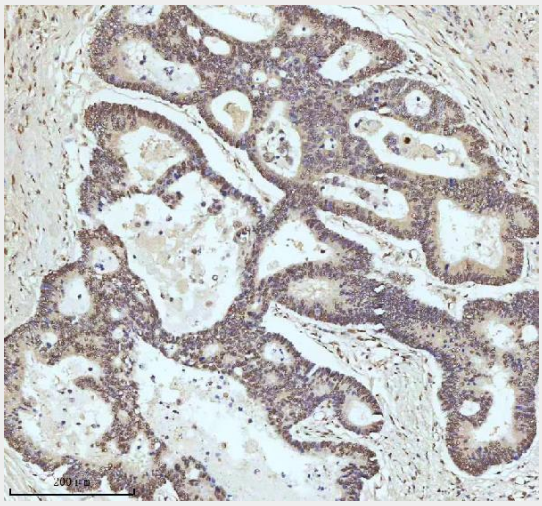

Figure 8. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human colon adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

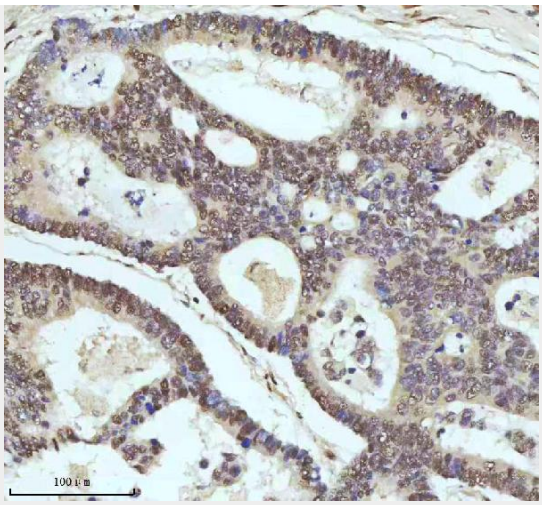

Figure 9. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human colon adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

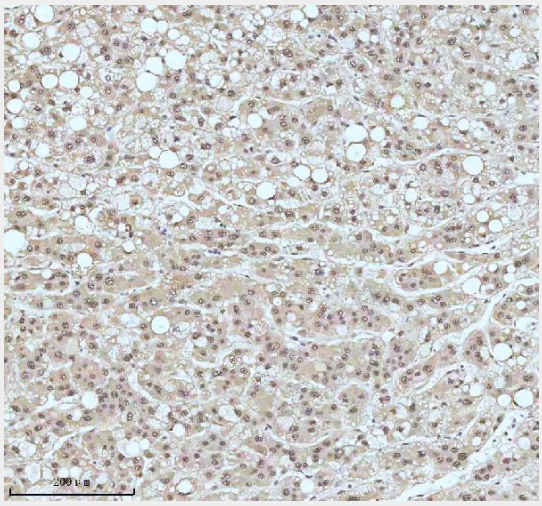

Figure 10. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

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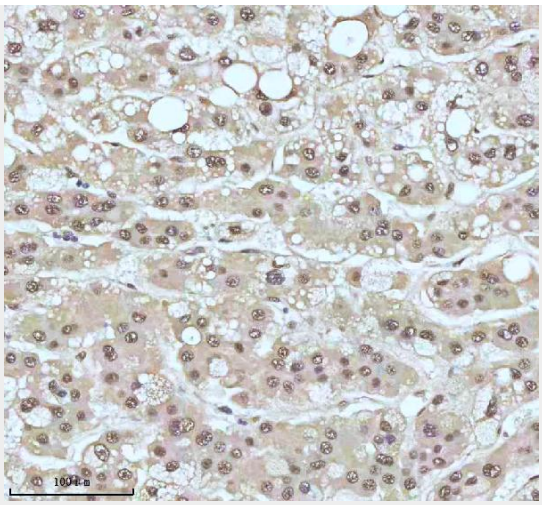

Figure 11. IHC analysis of 53BP1 using anti-53BP1 antibody (M00397).
53BP1 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1:50 rabbit anti-53BP1 Antibody (M00397) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.