

## Rabbit anti-Human Sp3/4 Polyclonal Antibody | anti-SP3 antibody

Sp3/4 Antibody

| CATALOG # | HOST   | REACTIVITY | APPLICATIONS                                                                       |
|-----------|--------|------------|------------------------------------------------------------------------------------|
| AAA322627 | Rabbit | Human      | ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot |

### PRODUCT SYNONYMS

Sp3/4; Polyclonal Antibody; Sp3/4 Antibody; D130027J01Rik; DKFZp686O1631; GC binding transcription factor Sp 3; GC binding transcription factor Sp3; MGC105187; OTTMUSP00000014207; SP 3; Sp 3 transcription factor; SP3; Sp3 transcription factor; SP3\_HUMAN; Specificity protein 3; SPR 2; SPR-2; SPR2; Transcription factor SP 3; Transcription factor Sp3; HF1B; MGC130008; MGC130009; Sp4; SP4\_HUMAN; SPR-1; SPR1; Transcription factor Sp4; anti-SP3 antibody

### PRODUCT SPECIFICATIONS

|                                               |                                                                                                                                               |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                          | Rabbit                                                                                                                                        |
| Reactivity                                    | Human                                                                                                                                         |
| Clonality                                     | Polyclonal                                                                                                                                    |
| Isotype                                       | IgG                                                                                                                                           |
| Specificity                                   | Sp3/4 antibody detects endogenous levels of total Sp3/4                                                                                       |
| Purity/Purification                           | The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.                                                 |
| Form/Format                                   | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.                                                 |
| Concentration                                 | 1mg/ml (varies by lot)                                                                                                                        |
| Sequence Length                               | 713                                                                                                                                           |
| Applicable Applications for anti-SP3 antibody | ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)                                      |
| Immunogen                                     | A synthesized peptide derived from human Sp3/4                                                                                                |
| Subcellular Location                          | Nucleus. Nucleus > PML Body. Localizes to the nuclear periphery and in nuclear dots when sumoylated. Some localization in PML nuclear bodies. |
| Tissue Specificity                            | Ubiquitously expressed.                                                                                                                       |
| Conjugation                                   | Unconjugated                                                                                                                                  |
| Preparation and Storage                       | Store at -20 degree C. Stable for 12 months from date of receipt.                                                                             |

### IMAGES



#### WB (Western Blot)

Western blot analysis Sp3/4 using Jurkat whole cell lysates



#### IF (Immunofluorescence)

AAA322627 staining Hela by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100, then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.



**IHC (Immunohistochemistry)**

AAA322627 at 1/100 staining Human breast cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

**ADDITIONAL INFORMATION**

**Related Product Information for anti-SP3 antibody**

Function: Transcriptional factor that can act as an activator or repressor depending on isoform and/or post-translational modifications. Binds to GT and GC boxes promoter elements. Competes with SP1 for the GC-box promoters. Weak activator of transcription but can activate a number of genes involved in different processes such as cell-cycle regulation, hormone-induction and house-keeping.

Subunit Structure: Interacts with HLTF; the interaction may be required for basal transcriptional activity of HLTF. Interacts with HDAC1; the interaction deacetylates SP3 and regulates its transcriptional activity. Interacts with HDAC2 (preferably the CK2-phosphorylated form); the interaction deacetylates SP3 and regulates its transcriptional activity. Interacts with MEIS2 isoform 4 and PBX1 isoform PBX1a.

Post-translational Modifications: Not glycosylated. Acetylated by histone acetyltransferase p300, deacetylated by HDACs. Acetylation/deacetylation states regulate transcriptional activity. Acetylation appears to activate transcription. Alternate sumoylation and acetylation at Lys-551 also control transcriptional activity. Ceramides can also regulate acetylation/deacetylation events through altering the interaction of HDAC with SP3. In vitro, C(18)-ceramides, but not C(16)-ceramides, increase the interaction of HDAC1 with SP3 and enhance the deacetylation of SP3 and the subsequent repression of the TERT promoter. Sumoylated on all isoforms. Sumoylated on 2 sites in longer isoforms with Lys-551 being the major site. Sumoylation at this site promotes nuclear localization to the nuclear periphery, nuclear dots and PML nuclear bodies. Sumoylation on Lys-551 represses the transactivation activity, except for the largest isoform, L-Sp3, which has little effect on transactivation. Alternate sumoylation and acetylation at Lys-551 also control transcriptional activity.

Similarity: Belongs to the Sp1 C2H2-type zinc-finger protein family.

**NCBI AND UNIPROT INFORMATION**

|                                  |                                                                |
|----------------------------------|----------------------------------------------------------------|
| NCBI GI #                        | 289577125                                                      |
| NCBI GeneID                      | 6670                                                           |
| NCBI Accession #                 | NP_001017371.3                                                 |
| NCBI GenBank Nucleotide #        | NM_001017371.4                                                 |
| UniProt Accession #              | Q02447; Q69B26; Q69B27; Q8TD56; Q8WWU4; Q9BQR1; A0AVL9; B4E2B7 |
| Molecular Weight                 | Observed: 82 kDa<br>Predicted: 82 kDa                          |
| NCBI Official Full Name          | transcription factor Sp3 isoform 2                             |
| NCBI Official Synonym Full Names | Sp3 transcription factor                                       |
| NCBI Official Symbol             | SP3                                                            |
| NCBI Official Synonym Symbols    | SPR2                                                           |
| NCBI Protein Information         | transcription factor Sp3                                       |
| UniProt Protein Name             | Transcription factor Sp3                                       |
| UniProt Gene Name                | SP3                                                            |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

