

Alexa Fluor® 647 anti-SP1 Antibody

Catalog# / Size	615253 / 25 µg 615254 / 100 µg
Clone	W21043E
Regulatory Status	RUO
Other Names	Transcription factor sp1, TSFP1, Specificity Protein 1
Isotype	Rat IgG2a, κ
Description	SP1 belongs to the transcription factor SP/KLF family, which contains three zinc finger domains that can bind to GC boxes and regulate transcription of a variety of molecules. SP1 regulates efferent gene transcription positively and negatively, participating broadly in cellular development and physiological functions as a generally expressed transcription factor. Post-translational modifications, including phosphorylation, glycosylation, acetylation, ubiquitylation, and SUMOylation, highly regulate SP1's function and stability. SP1 is required to develop and differentiate early embryo, placenta, and sperm cells. SP1 is highly expressed in multiple cancers including breast, stomach, pancreas, lung, and brain. SP1 promotes tumor cell proliferation, inactivates cell death, and facilitates immune escape.
Quality Statement	This product was carefully developed for performance and specificity using the following products from Horizon Discovery, a Revvity company: Human HAP1 Knockout Cell Line – SP1 (Horizon Cat. No. HZGHC001141c002)

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	E. coli derived recombinant fragment of human SP1
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	IHC-P - Quality tested ICC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 1.0 - 10.0 µg/mL is suggested. For immunocytochemistry, a concentration range of 1.25 - 10.0 µg/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Additional Product Notes	For use in immunohistochemistry on formalin-fixed paraffin-embedded tissue (IHC-P), it is recommended to perform antigen retrieval using either Citrate Buffer, 10X (Cat. No. 420902) or Tris-EDTA pH 9.0 Antigen Retrieval Buffer (10X) (Cat. No. 422704).

For use in immunocytochemistry (ICC), it is recommended to fix/permeabilize with any of the following:

-Fixation buffer (Cat. No. 420801) with 0.5 % Triton X-100

-Fixation buffer (Cat. No. 420801) with 100% ice-cold methanol

*It is not recommended to fix/permeabilize cells with methanol alone.

Antigen Details

Structure	SP1 is a 785 amino acid protein with an expected molecular weight of about 80.6 kD.
Distribution	Nuclear/Ubiquitous
Function	Binds to GC boxes to regulate transcriptional activity
Interaction	EP300, E2F1, RELA, HDACs, SMADs, BRCA1, BRCA2, RNF4, c-MYC, c-JUN, p53
Biology Area	Angiogenesis, Apoptosis/Tumor Suppressors/Cell Death, Cell Biology, Cell Cycle/DNA Replication, Cell Death, Cell Proliferation and Viability, Chromatin Remodeling/Epigenetics, DNA Repair/Replication, Immunology, Neurodegeneration, Signal Transduction, Transcription Factors
Molecular Family	Nuclear Markers
Antigen References	1. Saffer JD, <i>et al.</i> 1991. <i>Mol Cell Biol.</i> 11:2189-99. 2. Thomas K, <i>et al.</i> 2007. <i>Mol Cell Endocrinol.</i> 270:1-7. 3. Vizaino C, <i>et al.</i> 2015. <i>Pharmacol Ther.</i> 152:111-24. 4. Beishline K, <i>et al.</i> 2015. <i>FEBS J.</i> 282:224-58.

Gene ID [6667](#)

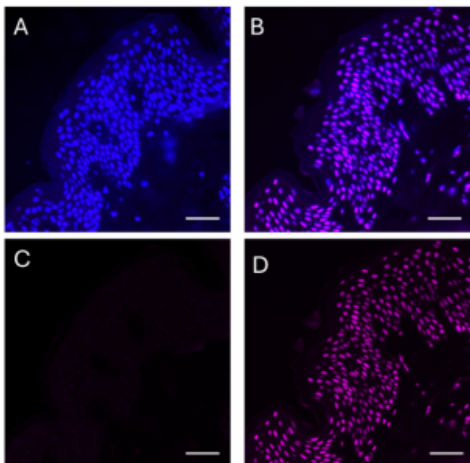
Related Protocols

- [Immunocytochemistry Staining Protocol](#)
- [Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

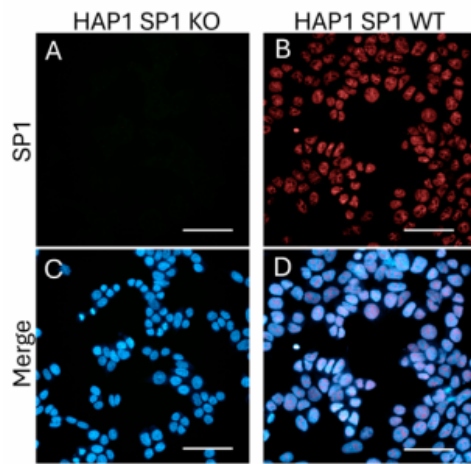
Other Formats

Purified anti-SP1, Alexa Fluor® 647 anti-SP1

Product Data



IHC staining of Alexa Fluor® 647 anti-SP1 (clone W21043E) on formalin-fixed paraffin-embedded human skin. Following antigen retrieval using 1X Tris-EDTA pH 9.0 Antigen Retrieval Buffer (Cat. No. 422704), the tissue was incubated without (panels A and C) and with (panels B and D) Alexa Fluor® 647 anti-SP1 (clone W21043E). Nuclei were counterstained with DAPI (panels A and B) (Cat. No. 422801). Images were captured with a 40X objective and merged. Scale bar: 50 μm



HAP1 SP1 Knockout cell line, (Horizon Cat. No. HZGHC001141c002, panels A and C) and HAP1 WT cells (high-expressing cell line, panels B and D) were fixed with 4% PFA Fixation Buffer (Cat. No. 420801) for 10 minutes, permeabilized with 0.5% Triton X-100 for 10 minutes and blocked with 5% FBS for 1 hour at room temperature. Cells were then stained with Alexa Fluor® 647 anti-SP1 (clone W21043E) overnight at 4°C. Nuclei were counterstained with DAPI (Cat. No. 422801, panels C and D). The images were captured on a Revvity Operetta CLS™ High Content Analysis System with a 63X objective and merged. Scale bar: 50 μ m

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