



Qty: 100µg/400 µL

Rabbit anti-Smurf1

Catalog No. 38-7900

Lot No.

## Rabbit anti-Smurf1

### FORM

This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.411

### IMMUNOGEN

Synthetic peptide derived from an internal region of human Smurf1 (Smad ubiquitination regulatory factor 1, Smad-specific E3 ubiquitin ligase 1, Smad-ubiquitin E3 ligase Smurf1-beta).

### SPECIFICITY

This antibody reacts with human and mouse Smurf1. On Western blots, it identifies the target band at ~100 kDa.

### REACTIVITY

Reactivity has been confirmed with human A375, NGP96, HepG2, MeWo cell lysates, and mouse liver and testis homogenates. Based on amino acid sequence homology, reactivity with rat may also be observed.

Sample	Western Blotting	Immuno-precipitation
Human	+++	ND
Mouse	+++	0*

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

\* No reactivity observed under conditional tested

### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Western Blotting:** 1-3 µg/mL

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

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**Background**

Smurf1 (Smad ubiquitination regulatory factor-1) is a member of the Hect family of proteins, which also includes the ubiquitin (Ub) E3-type ligases Nedd3 and E6-AP<sup>1,2</sup>. E3 ligases are involved in the enzymatic reactions of the Ub conjugating pathway that targets proteins for degradation by the 26S proteasome<sup>3</sup>. In the Ub pathway, E3 ligases catalyze the transfer of Ub from Ub-conjugating enzymes to the individual protein substrate<sup>4</sup>. As an E3 ligase, Smurf1 preferentially promotes the transfer of Ub to Smad proteins, thereby targeting them for degradation<sup>2,5</sup>. Smurf1 regulates the inhibitory activity of Smad7 by targeting it to the plasma membrane<sup>6</sup>, and is also known to enhance the degradation of the inhibitory Smad1 and Smad5, thereby down-regulating the BMP pathway, which controls embryonic development and the specification of ectoderm- and mesoderm-derived tissues<sup>3,7-8</sup>.

**References:**

1. Huijbrechtse JM, et al. *PNAS* 92:253-2567, 1995.
2. Zhu H, et al. *Nature* 400:687-693, 1993.
3. Scheffner M, et al. *Cell* 75:495-505, 1993.
4. Hershko A and Ciechanover A. *PNAS* 92:2563-2567, 1998.
5. Candia AF, et al. *Development* 124:4467-4480, 1997.
6. Suzuki C, et al. *J Biol Chem* 277:39919-39925, 2002.
7. Heldin CH, et al. *Nature* 390:465-471, 1997.
8. Murakami G, et al. *Mol Biol Cell* 14:2809-2819, 2003.

**RELATED PRODUCTS**

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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