

# ZYMED® Laboratories

invitrogen immunodetection

Qty: 100µg/400 µL

Rabbit anti-Ubc9

Catalog No. 38-3000

Lot No.

## Rabbit anti-Ubc9

### 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.363

### IMMUNOGEN

Synthetic peptide derived from an internal region of the human, mouse, rat and golden hamster Ubc9 proteins.

### SPECIFICITY

This antibody reacts with human, mouse, rat and golden hamster ubiquitin-conjugating enzyme 9 (Ubc9) protein. On Western blots, it identifies the target band at ~18 kDa. A band at ~13 kDa is observed in mouse spleen homogenates.

### REACTIVITY

Reactivity has been confirmed HEK293, HepG2, HL-60 cell lysates and mouse spleen homogenates.

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

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

\*No reactivity observed under conditions 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.

(cont'd)

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PIN: 31617

Rev. 6/07

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DCC-06-0084

**BACKGROUND**

Ubiquitin-conjugating enzyme 9 (Ubc9)<sup>1-3</sup> is a component of the ubiquitin-mediated proteolytic SUMO (sentrin) pathway that targets proteins for degradation by the 26S proteasome, mediates endocytosis and directs protein subcellular localization.<sup>4,5</sup> Ubc9 primarily mediates SUMOlation but not ubiquitinylation.<sup>6,7</sup> An E3 ubiquitin ligase systematically transfers Ub and Ub-like molecules from E2 conjugating enzymes to the targeted substrate.<sup>8</sup> Ubc9, like other E2 family members, contains a conserved cysteine residue that is required for the thio ester formation between Ub-like proteins, and the E2 member, and it shares a conserved Ubc domain of approximately 16 kDa.<sup>9</sup> More than 30 different vertebrate proteins are potential candidates for SUMOlation by Ubc9.<sup>10</sup> Many Ubc9-interacting proteins contain a PEST sequence, a stretch of at least 12 amino acids rich in P, E, D, S, and T amino acid residues.<sup>10-13</sup> Substrates for Ubc9 include transcription factors E12 and E47 and mitotic regulators RanBP2 and RanGAP1, indicating that Ubc9 may regulate various cellular processes including cell cycle progression and differentiation.<sup>14,15</sup> Many Ubc9-interacting proteins have been implicated in the maintenance of vertebrate genome integrity, including the tumor suppressor protein p53,<sup>16</sup> the promyelocytic leukemia protein (PML),<sup>17</sup> the poly(ADP-ribose) polymerase PARP<sup>18</sup> and the homologous recombination proteins Rad51/52.<sup>13,16,19</sup> Ubc9 is predominantly present in the nucleus, and at the nuclear pore complex.<sup>10,20-22</sup> Ubc9's distribution across the nuclear membrane, nuclear versus cytoplasmic, is important in controlling the subcellular localization of SUMOs and/or SUMOlated proteins, the assembly of PML bodies, and the homologous recombination process mediated by Rad51.<sup>13</sup>

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

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