

## SQL E Antibody



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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<b>Applications:</b> W, IP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 60	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q14534	<b>Entrez-Gene Id:</b> 6713
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:50

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. *Do not aliquot the antibody.*

### Specificity/Sensitivity

SQL E Antibody recognizes endogenous levels of total SQL E protein.

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro85 of human SQL E protein. Antibodies are purified by protein A and peptide affinity chromatography.

### Background

Squalene monooxygenase (SQL E), also known as squalene epoxidase, catalyzes the stereospecific oxidation of squalene to (S)-2,3-epoxysqualene (1,2) and is considered to be a critical rate-limiting enzyme in cholesterol biosynthesis downstream of 3-hydroxy-3-methylglutaryl-coenzyme A reductase (HMGCR) (3). The N-terminal region of SQL E is anchored to the endoplasmic reticulum membrane via a re-entrant loop, and undergoes a conformational change in response to elevated cholesterol levels. This cholesterol-mediated conformational change promotes the interaction of SQL E with the E3 ligase MARCH6, leading to targeted ubiquitination and proteasomal degradation (4-6). Altered expression of SQL E is associated with perturbed cholesterol homeostasis and tumor progression, prompting investigation of the therapeutic potential of SQL E (7). Moreover, research studies have shown that cholesterol auxotrophy and subsequent squalene accumulation observed in certain cancers may prevent oxidative cell death and represent a targetable vulnerability to SQL E inhibitors (8,9).

### Background References

- Gonzalez, R. et al. (1979) *Arch Biochem Biophys* 196, 574-80.
- Hidaka, Y. et al. (1990) *J Lipid Res* 31, 2087-94.
- Gill, S. et al. (2011) *Cell Metab* 13, 260-73.
- Zelcer, N. et al. (2014) *Mol Cell Biol* 34, 1262-70.
- Howe, V. et al. (2015) *J Biol Chem* 290, 27533-44.
- Chua, N.K. et al. (2017) *J Biol Chem* 292, 19959-73.
- Brown, D.N. et al. (2016) *Sci Rep* 6, 19435.
- Garcia-Bermudez, J. et al. (2019) *Nature* 567, 118-22.
- Mahoney, C.E. et al. (2019) *Nat Commun* 10, 96.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** Human

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