

## Product Information

### Anti-DSCR1 (C-terminal)

produced in rabbit, affinity isolated antibody

Product Number **D6694**

#### Product Description

Anti-DSCR1 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence at the C-terminal of human DSCR1 (GeneID 1827) conjugated to KLH. This sequence is identical in human DSCR1 isoforms a and b, and in rat and mouse DSCR1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-DSCR1 (C-terminal) specifically recognizes human, rat, and mouse DSCR1. The antibody may be used for immunoblotting (~26 kDa). Staining of the DSCR1 band by immunoblotting is specifically inhibited by the DSCR1 immunizing peptide.

*DSCR1* (Down Syndrome Candidate Region 1, also known as RCAN1, calcipressin-1, MCIP1, and ADAP78) is one of over 50 genes implicated in causing the abnormalities found in Down's syndrome (DS).<sup>1,2</sup> *DSCR1* is encoded by a gene located just outside the Down syndrome (DS) critical region 21q22.2 of human chromosome 21.<sup>1</sup> *DSCR1* belongs to a family of conserved proteins named regulators of calcineurin (RCAN), that in humans include RCAN2-3, encoded by the *DSCR1L1-2* genes. *DSCR1* is highly expressed in the central nervous system (CNS) during early embryonic development, in heart, and in skeletal muscle.<sup>3,4</sup> It is involved in cellular adaptation to oxidative stress, and interacts with calcineurin to inhibit its phosphatase activity, thereby regulating the calcineurin-NFAT signaling pathway and affecting CNS development and angiogenesis. *DSCR1* is over-expressed in brains of DS fetuses.<sup>2</sup> Chronic over-expression of *DSCR1* has been implicated in additional pathological conditions including Alzheimer's disease and cardiac hypertrophy, possibly through inhibition of calcineurin activity.<sup>5</sup> In a mouse model, overexpression of *DSCR1* and *DYRK1A* cooperatively causes dysregulation of NFAT, leading to reduced NFATc activity and many of the features of Down's syndrome.<sup>6</sup> *DSCR1* is induced by VEGF in activated endothelial cells and regulates the expression of inflammatory marker genes such as IL-8, tissue factor, E-selectin and Cox-2.<sup>7</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.5 mg/mL

#### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

#### Product Profile

**Immunoblotting:** a working concentration of 2-4 µg/mL is recommended using HEK-293T cells expressing human *DSCR1*.

**Note:** In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

#### References

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2. Fuentes, J.J. et al., *Hum. Mol. Genet.*, **9**, 1681-1690 (2000).
3. Casas, C. et al., *Mech. Dev.*, **101**, 289-292 (2001).
4. Qin, L. et al., *Mol. Cancer Res.*, **4**, 811-820 (2006).
5. Harris, C.D. et al., *Cell. Mol. Life Sci.*, **62**, 2477-2486 (2005).
6. Arron, J.R. et al., *Nature*, **441**, 595-600 (2006).
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VS,ER,KAA,PHC,MAM 02/19-1