

## Product Information

### Anti-FOXC2

Developed in Rabbit  
Affinity Isolated Antibody

Product Number **F 1054**

### Product Description

Anti-FOXC2 is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 439-454 of mouse FOXC2, conjugated to KLH via an N-terminal added lysine residue. The immunizing sequence is conserved in human and mouse. The sequence is partially conserved in FOXC1, another member of the Forkhead family. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-FOXC2 reacts specifically with FOXC2 (approx. 55 kDa). The antibody may be used in immunoblotting. Specific staining of the FOXC2 band by immunoblotting is inhibited by the FOXC2 immunizing.

The superfamily of Forkhead transcription factors (FOX) consists of more than 100 members, with orthologues expressed in a variety of species ranging from yeast to man.<sup>1,2</sup> They are characterized by a common Forkhead (or Winged Helix) domain, a variant of the helix-turn-helix motif.<sup>2,3</sup> Forkhead family members play key regulatory roles in embryonic development, differentiation, apoptosis and tumorigenesis.<sup>1-5</sup>

FOXC2, also known as MFH-1 and FKHL14, is a 501 amino acid transcription factor with pleiotropic effects in functions such as protection against type 2 diabetes, osteoblastic differentiation, and regulation of the cAMP dependent protein kinase.<sup>6-8</sup> FOXC2 affects adipocyte metabolism by increasing the sensitivity of the  $\beta$ -adrenergic-cAMP-protein kinase A (PKA) signaling pathway through alteration of adipocyte PKA holoenzyme composition.<sup>6</sup> FOXC2 expression in adipocytes is induced by insulin and TNF $\alpha$  via activation of PI3K and ERK1/2 pathways. Furthermore, FOXC2 is expressed in preadipocytes and is down-regulated during differentiation, suggesting that FOXC2 is an early marker for adipocyte differentiation.<sup>9</sup> In a different pathway, BMP-2 (bone morphogenetic protein-2) induces MFH-1 (mouse homologue of FOXC2) in a pathway that leads to differentiation of C2C12 myoblast to osteoblasts.<sup>7</sup>

### Reagent

Anti-FOXC2 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 1.0 mg/ml

### Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS 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 is not recommended. Storage in frost-free freezers is also 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

By immunoblotting, a working antibody concentration of 1-2  $\mu$ g/ml is recommended using total extracts of NIH3T3-L1 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

### References

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CAA/NV 06/04

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