



DB053: Sp3 (C19)

Background:

The Sp (specificity protein) family is a family of transcription factors that bind to cis-elements in the promoter regions of various genes. Members of the family bind with varying affinities to sequences designated as 'Sp1 sites' (e.g., GC-boxes, CACCC-boxes, and basic transcription elements) (4,8). In human cells, telomerase activity is tightly regulated by the expression of human telomerase reverse transcriptase (hTERT). Sp1 and Sp3 have been shown to associate with the hTERT promoter, recruiting histone deacetylase for the localized deacetylation of nucleosomal histones and transcriptional silencing of the hTERT gene in normal human somatic cells (3). The role of the Sp family members in many diseases is being investigated. Sp-1 has been discussed in association with diabetic microvasculopathy and Huntington's disease (2,5). It has been suggested that transcription of the Sp3 gene is blocked in immune cells from most patients with multiple sclerosis and that this contributes to the development of central nervous system inflammation in the disease (6). Sp3 has also been shown to be required for proper skeletal ossification (7). Down-regulation of the transcription factor Sp-1 is thought to be involved in the inhibition of strain-induced mitogenesis in human vascular smooth muscle cells by estrogen via an estrogen receptor mediated process (1).

Origin:

Sp3 (C19) is provided as an affinity purified rabbit polyclonal antibody, raised against a peptide mapping to the carboxy terminus of human Sp3.

Product Details:

Each vial contains 200 µg/ml of affinity-purified rabbit IgG DB053 Sp3 (C19), in 1 ml PBS containing 0.1% sodium azide and 0.2% gelatin.

Also supplied for gel supershift studies as DB053x Sp3 (C19) at 200 µg/0.2ml, in PBS containing 0.1% sodium azide.

Competition Studies:

A blocking peptide is also available, DB053P, for use in competition studies. Each vial contains 100 µg of peptide in 0.5 ml PBS with 0.1% sodium azide and 100 µg BSA.

Specificity:

DB053 Sp3 (C19) reacts with Sp3 of mouse, rat and human origin by western blotting. Western blotting starting dilution: 1:200.

Storage:

Store this product at 4° C, do not freeze. The product is stable for one year from the date of shipment.

References:

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3. Won J, Yim J, Kim TK. Sp1 and Sp3 recruit histone deacetylase to repress transcription of human telomerase reverse transcriptase (hTERT) promoter in normal human somatic cells. *J Biol Chem* 2002 Jul 31
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7. Gollner H, Dani C, Phillips B, Philipsen S, Suske G. Impaired ossification in mice lacking the transcription factor Sp3. *Mech Dev* 2001 Aug;106(1-2):77-83
8. Black AR, Black JD, Azizkhan-Clifford J. Sp1 and kruppel-like factor family of transcription factors in cell growth regulation and cancer. *J Cell Physiol* 2001 Aug;188(2):143-60

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