

OAZ (h): 293T Lysate: sc-373007

BACKGROUND

OAZ (Olf-1/EBF associated zinc finger), also known as Roaz, is a 30-zinc finger, DNA-binding factor that associates with members of the Smad family of transcription factors in response to BMP2 activation. Bone morphogenic proteins (BMPs), are the largest group within the TGF β growth factors superfamily and are involved in embryonic development, specifically the formation of left-right asymmetry, neurogenesis, organogenesis and skeletal development. BMPs bind to surface receptors, which then phosphorylate serine residues of specific Smad proteins to induce Smad translocation to the nucleus and transcriptional activation of BMP targeted genes. OAZ specifically cooperates with the BMP-activated Smads, namely Smad1, 5 and 8, in binding to the CAGAC and TGGAGC boxes within the BRE, or BMP response element, and activating transcription. OAZ contains a BMP signaling module formed by two clusters of fingers that individually associate with either the Smads or the BMP response element. Distinct regions of OAZ, separate from the modules involved in BMP regulation, also enable OAZ to function as a transcriptional partner of Olf-1/EBF in olfactory epithelium and lymphocyte development, indicating that, as a multi-zinc finger protein, OAZ may have dual roles in signal transduction during development.

REFERENCES

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- Tsai, R.Y., et al. 1997. Cloning and functional characterization of ROAZ, a zinc finger protein that interacts with O/E-1 to regulate gene expression: implications for olfactory neuronal development. *J. Neurosci.* 17: 4159-4169.
- Tsai, R.Y., et al. 1998. Identification of DNA recognition sequences and protein interaction domains of the multiple-Zn-finger protein ROAZ. *Mol. Cell. Biol.* 18: 6447-6456.
- Macias-Silva, M., et al. 1998. Specific activation of Smad1 signaling pathways by the BMP7 type I receptor, ALK2. *J. Biol. Chem.* 273: 25628-25636.
- Klug, A. 1999. Zinc finger peptides for the regulation of gene expression. *J. Mol. Biol.* 293: 215-218.
- Wrana, J.L. 2000. Regulation of Smad activity. *Cell* 100: 189-192.
- Hata, A., et al. 2000. OAZ uses distinct DNA- and protein-binding zinc fingers in separate BMP-Smad and Olf signaling pathways. *Cell* 100: 229-240.

CHROMOSOMAL LOCATION

Genetic locus: ZNF423 (human) mapping to 16q12.1.

PRODUCT

OAZ (h): 293T Lysate represents a lysate of human OAZ transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

OAZ (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive OAZ antibodies. Recommended use: 10-20 μ l per lane.

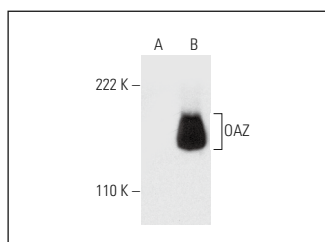
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

OAZ (E-6): sc-393904 is recommended as a positive control antibody for Western Blot analysis of enhanced human OAZ expression in OAZ transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



OAZ (E-6): sc-393904. Western blot analysis of OAZ expression in non-transfected: sc-117752 (A) and human OAZ transfected: sc-373007 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.