

OAZ (E-20): sc-10488

BACKGROUND

OAZ (Olf-1/EBF associated zinc finger) 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 morphogenetic 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 CAGA_C 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

- Hogan, B.L.M. 1996. Bone morphogenetic proteins: multifunctional regulators of vertebrate development. *Genes Dev.* 10: 1580-1594.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: ZNF423 (human) mapping to 16q12.1; Zfp423 (mouse) mapping to 8 C3.

SOURCE

OAZ (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of OAZ of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-10488 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-10488 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

OAZ (E-20) is recommended for detection of OAZ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

OAZ (E-20) is also recommended for detection of OAZ in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for OAZ siRNA (h): sc-38144, OAZ siRNA (m): sc-38145, OAZ shRNA Plasmid (h): sc-38144-SH, OAZ shRNA Plasmid (m): sc-38145-SH, OAZ shRNA (h) Lentiviral Particles: sc-38144-V and OAZ shRNA (m) Lentiviral Particles: sc-38145-V.

OAZ (E-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of OAZ: 145 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Ku, M., et al. 2006. OAZ regulates bone morphogenetic protein signaling through Smad6 activation. *J. Biol. Chem.* 281: 5277-5287.
- Cho, Y.W., et al. 2013. Zfp423 binds autoregulatory sites in P19 cell culture model. *PLoS ONE* 8: e66514.

RESEARCH USE

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

PROTOCOLS

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



Try **OAZ (B-7): sc-514748** or **OAZ (E-6): sc-393904**, our highly recommended monoclonal alternatives to OAZ (E-20).