

Product Specification Sheet

Core binding factor alpha 1 (CBFA1) Antibodies

Cat. # CBFA11-S	Rabbit Anti-Human CBFA1 antiserum	SIZE: 100 ul
Cat. # CBFA11-P	Human CBFA1 control peptide # 1	SIZE: 100 ug
Cat. # CBFA11-A	Rabbit Anti-Human CBFA1 IgG # 1 (aff pure)	SIZE: 100 ug

BMPs are important regulators of key events in the processes of bone formation during embryogenesis, postnatal growth, remodeling and regeneration of the skeleton. The BMPs function by binding to a receptor complex that is found on all normal cells and is composed of type-I and -II receptors. The primary unit of bone formation is osteoblast, the bone forming cell. These osteoblast cells respond to physical loading by transducing signals that alter gene expression patterns. Cbfa (core binding factor), the osteoblast specific transcription factor plays an important role in osteoblast differentiation and function.

Cbfa1 / Runx2 / OSF2 (alternatively spliced form 507aa and 522aa in human (chr 6p21) and 528aa or 596aa in mouse) is expressed in bone thymus, testis but not in brain, lung, heart or kidney. It is a transcription factor involved in osteoblastic differentiation and skeletal morphogenesis, essential for the maturation of osteoblasts and both intramembranous and endochondral ossification. Defects in Cbfa1 are the cause of cleidocranial dysplasia (CCD), an autosomal dominant skeletal disorder with high penetrance and variable expressivity. It is due to defective endochondral and intramembranous bone formation

Source of Antigen and Antibodies

Antigen	17-aa peptide CBFA1 (1) ; Designation (CBFA11-P, control peptide) conjugated to KLH; epitope location ~ Mid-region
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#CBFA11-S) and IgG, purified over antigen-agarose (Cat # CBFA11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). See refs in 2

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: We recommend the use of aff pure IgG at 2-20 ug/ml. See refs in 2

Specificity & Cross-reactivity

The Human CBFA11-P control peptide is 100% conserved in rat and mouse CBFA1. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).)

General References: Mundlos S et al (1997) Cell 89, 773-779, Ducey P et al (1997) Cell 89, 747-754, Komori T et al (1997) Cell 89, 755-764, Otto F et al (1997) Cell 89, 765-771.

2. Citations of for ADI Antibodies (see updates at the web site)

Perinpanayagam H,2003,J. Orthopaedic Res., 22, 404-410,WB,
Steinert A,2003,J. Orthopaedic Res. 21, 1090-1097,,IHC
Engler AJ,2006,Cell, 126, 677-689,,IF
Perinpanayagam H,2006,Archives of Oral Biology, 51, 406-415,WB,
Rabie ABM,2003,Arch Oral Biol 49, 1009-1118,,IHC

*This product is for In vitro research use only.

Related material available from ADI

CBFA1, 2 and 3 antibodies, Noggin, Schlerostin and BMP antibodies
CBFA11-S-A-P 71217A

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