

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human COCO in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) Activin A, rhBMP-4, rhDAN, or recombinant mouse COCO is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 322209
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human COCO Arg23-Ala189 Accession # Q8N907
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

Human COCO Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human COCO Antibody (Catalog # MAB30471)
ELISA Detection	0.5-2.0 µg/mL	Human COCO Biotinylated Antibody (Catalog # BAM3047)
Standard		Recombinant Human COCO (Catalog # 3047-CC)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

COCO, also known as DAND5, Dante, and CKTSF1B3, is a member of the DAN Domain family of BMP antagonists that includes DAN (DAND1), Gremlin/Drm (DAND2), PRDC (Protein Related to Dan and Cerberus; DAND3), and Cerberus (DAND4). DAN family members contain a cysteine-knot domain that is homologous to that found in other TGF-β superfamily ligands (1-3). BMPs play important roles in tissue morphogenesis and development processes (4, 5, 6). The human COCO cDNA encodes a 189 amino acid (aa) precursor with a 22 aa signal sequence (2, 7). COCO has eight Cys residues in the cysteine-knot which places it in the CAN subfamily of BMP antagonists along with the other DAN family proteins (1). Human COCO shares 60% and 24% aa sequence identity with mouse and *Xenopus* COCO, respectively. It shares 17%, 20%, 25%, and 22% aa sequence identity with human DAN, Gremlin, PRDC, and Cerberus, respectively. In *Xenopus* embryonal development, COCO is expressed by pluripotent ectodermal cells. Expression is abruptly downregulated prior to gastrulation, and the loss of ectodermal cell pluripotency is coincident with COCO downregulation (7). COCO binds and inhibits Xnr1, BMP-4, Activin, and Wnt-8 (7). In mouse, COCO expression is elevated on the right side of Henson's node at the early somite stage, in contrast to the left side expression of Nodal (8). COCO may cooperate with Nodal in gastrulation and embryonic left-right axis formation (5, 8).

References:

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7. Bell, E. *et al.* (2003) *Development* **130**:1381.
8. Pearce, J.J. *et al.* (1999) *Dev. Biol.* **209**:98.