DESCRIPTION

Species Reactivity Human
Specificity Detects human Cripto-1 in ELISAs. In sandwich immunoassays, no cross-reactivity with recombinant mouse Cripto-1, recombinant human (rh) EGF, rhTGF-α, rhTGF-β1, rhTGF-β2, rhTGF-β3, or rhCryptic is observed.

Source Monoclonal Mouse IgG1, Clone # 89633
Purification Protein A or G purified from hybridoma culture supernatant
Immunogen E. coli-derived recombinant human Cripto-1 Arg38-Tyr188
Accession # P13385

Conjugate Allophycocyanin
Excitation Wavelength: 620-650 nm
Emission Wavelength: 660-670 nm

Formulation Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.

*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Recommended Concentration

<table>
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<tr>
<th>Sample</th>
<th>Flow Cytometry</th>
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<td>10 µL/10⁶ cells</td>
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DATA

Flow Cytometry

Detection of Cripto-1 in Human Blood Monocytes by Flow Cytometry. Human peripheral blood monocytes were stained with Mouse Anti-Human Cripto-1 APC-conjugated Monoclonal Antibody (Catalog # FAB2772A, filled histogram) or isotype control antibody (Catalog # IC002A, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

Protect from light. Do not freeze.

- 12 months from date of receipt, 2 to 8 °C as supplied.
Cripto is the founding member of the epidermal growth factor-CriptoFRL1Cryptic (EGF-CFC) family of signaling proteins that function in cancer and various developmental processes. These developmental processes include: formation of the germ layers and dorsal organizer, specification of anterior-posterior and left-right axes, and differentiation of heart muscle (1, 2). Other members of the EGF-CFC family include Cryptic, Xenopus FRL-1 and zebrafish OEP (one-eyed pinhead).

Overall sequence identity between members of the family is low, but they do share several common domains: a variant EGF-like motif, a novel conserved cysteine-rich domain (called CFC domain), and a C-terminal hydrophobic region. Most EGF-CFC members have a glycosyl-phosphatidylinositol (GPI) anchoring site at the C-terminus and exist as extracellular membrane-anchored proteins. However, naturally-occurring soluble isoforms also exist. Human Cripto shares 66% and 28% amino acid identity with mouse Cripto and zebrafish OEP, respectively (2). Despite weak conservation in amino acid identity, EGF-CFC family members appear to function similarly in assays for phenotypic rescue of zebrafish oep mutants (2). Both secreted and membrane bound forms of Cripto demonstrate biological activity (3). Cripto, also known as CFC-2 or TDGF-1 (teratocarcinoma-derived growth factor), was originally isolated from an undifferentiated human teratocarcinoma cell line as a potential oncogene. It is overexpressed in many types of cancers and acts as a growth factor for tumors (4). Genetic evidence from mice and zebrafish points to a role for Cripto as an essential cofactor in Nodal signaling. Cripto and OEP mutants display defects in mesoderm induction and heart morphogenesis, similar to phenotypes seen in Nodal mutants (2). Cripto acts as a cofactor for Nodal by recruiting the Activin type I Receptor, ALK4, leading to an ActRIIB-ALK4-Cripto-Nodal complex for signaling (1, 3). Cripto also forms a complex with activin and Act RIIIs to block activin signaling (5). Studies have shown that other TGF-β superfamily members such as Vg1 and GDF-1 also require EGF-CFC cofactors (6). Cripto can also activate mitogen-activated protein kinase (MAPK) and Akt pathways independently of Nodal by directly binding to a membrane-associated heparan sulfate proteoglycan, glypican-1 (7).

References: