Human/Mouse COX4-I1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF5814

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse COX-4I1 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human COX4-I1 Ala23-Lys169 Accession # P13073
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

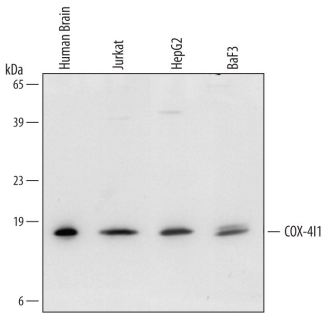
APPLICATIONS

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	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below
Immunocytochemistry	This antibody has been used at a concentration of 5-15 µg/mL to detect COX4-I1 in immersion fixed HeLa human cervical epithelial carcinoma cell line. Internal testing was not able to validate staining in a mouse cell line.	

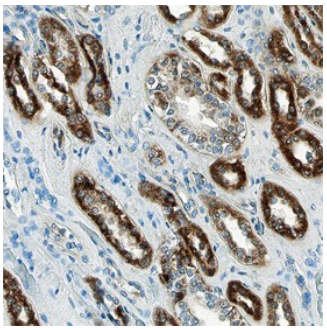
DATA

Western Blot



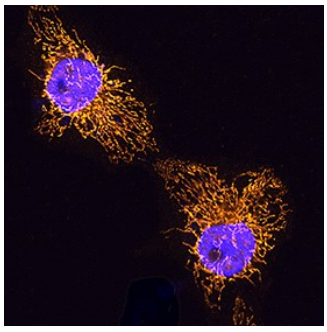
Detection of Human/Mouse COX4-I1 by Western Blot. Western blot shows lysates of human brain tissue, Jurkat human acute T cell leukemia cell line, HepG2 human hepatocellular carcinoma cell line, and BaF3 mouse pro-B cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse COX4-I1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5814) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for COX4-I1 at approximately 18 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 2.

Immunohistochemistry



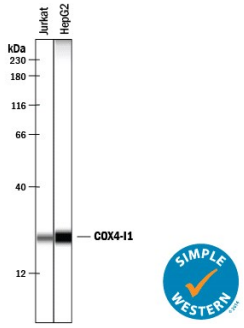
COX4-I1 in Human Kidney. COX4-I1 was detected in immersion fixed paraffin-embedded sections of normal human kidney using Goat Anti-Human/Mouse COX4-I1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5814) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Immunocytochemistry



COX4-I1 in HeLa Human Cell Line. COX4-I1 was detected in immersion fixed HeLa human cervical epithelial carcinoma cell line using Goat Anti-Human/Mouse COX4-I1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5814) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (yellow; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to mitochondria. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Simple Western



Detection of Human COX4-I1 by Simple Western™. Simple Western lane view shows lysates of Jurkat human acute T cell leukemia cell line and HepG2 human hepatocellular carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for COX4-I1 at approximately 24 kDa (as indicated) using 10 µg/mL of Goat Anti-Human/Mouse COX4-I1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5814) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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BACKGROUND

Cytochrome c oxidase subunit 4 isoform 1 (COX-4I1) is a 21-22 kDa member of the cytochrome c oxidase IV family of proteins. It is a component of COX, an inner mitochondrial membrane multimeric dimer that catalyzes the transfer of electrons from cytochrome c to dioxygen. COX-4I1 is the largest of 10 distinct nuclear DNA-encoded subunits that form each COX monomer. Human COX4-I1 is 169 amino acids (aa) in length and possesses a mitochondrial transit peptide between aa 1-22, an ATP binding site (aa 42; 95-100), and multiple subunit interface sequences. The ATP binding site is suggested to make COX-4I1 a regulatory subunit within the COX complex. There are two potential splice variants for COX-4I1 that show a three aa substitution for aa 81-169, and a single Gly substitution for aa 125-169. COX-4I2, the product of a different gene, shares only 50% aa identity with COX-4I1. Over amino acid 23-169, human COX4-1 shares 78% aa identity with mouse COX-4I1.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956