Human PD-ECGF/Thymidine Phosphorylase Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1143

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human PD-ECGF/Thymidine Phosphorylase in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human PD-ECGF/Thymidine Phosphorylase Ala11-Gln482 Accession # P19971
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

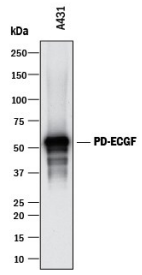
APPLICATIONS

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	0.1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize PD-ECGF/Thymidine Phosphorylase-induced proliferation in HUVEC human umbilical vein endothelial cells. Usuki, K. *et al.* (1990) Cell Regulation **1**:577. The Neutralization Dose (ND_{50}) is typically 0.5-2.0 µg/mL in the presence of 150 ng/mL Recombinant Human PD-ECGF/Thymidine Phosphorylase.	

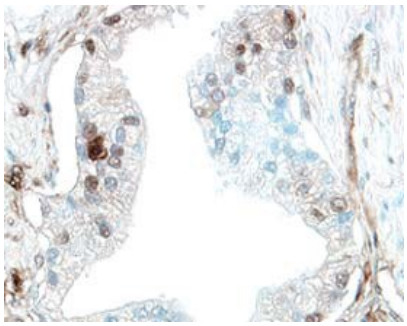
DATA

Western Blot



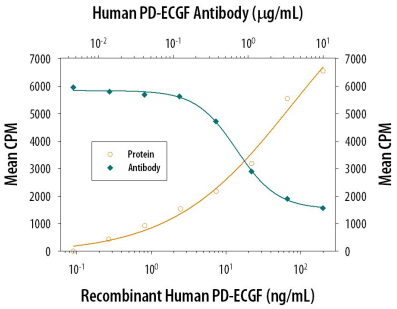
Detection of Human PD-ECGF/Thymidine Phosphorylase by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line. PVDF membrane was probed with 0.1 µg/mL of Goat Anti-Human PD-ECGF/Thymidine Phosphorylase Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1143) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF017). A specific band was detected for PD-ECGF/Thymidine Phosphorylase at approximately 49 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



PD-ECGF/Thymidine Phosphorylase in Human Prostate Cancer Tissue. PD-ECGF/Thymidine Phosphorylase was detected in immersion fixed paraffin-embedded sections of human prostate cancer tissue using 5 µg/mL Goat Anti-Human PD-ECGF/Thymidine Phosphorylase Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1143) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counter-stained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Neutralization



Cell Proliferation Induced by PD-ECGF/Thymidine Phosphorylase and Neutralization by Human PD-ECGF/Thymidine Phosphorylase Antibody. Recombinant Human PD-ECGF/Thymidine Phosphorylase (Catalog # Catalog # 229-PE) stimulates proliferation in HUVEC human umbilical vein endothelial cells in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human PD-ECGF/Thymidine Phosphorylase (150 ng/mL) is neutralized (green line) by increasing concentrations of Human PD-ECGF/Thymidine Phosphorylase Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1143). The ND_{50} is typically 0.5-2.0 µg/mL.

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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.
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.

BACKGROUND

PD-ECGF, also known as TPase and gliostatin, is produced by placenta, platelets, liver, lung, spleen, lymph nodes, and peripheral lymphocytes. It is overexpressed by many tumors in response to chemical or physical stress. PD-ECGF promotes endothelial cell proliferation and chemotaxis and promotes angiogenesis. PD-ECGF is a key enzyme in the pyrimidine nucleoside salvage pathway. It also metabolizes and inactivates chemotherapeutic drugs such as 5-fluorouracil and its derivatives. The human PD-ECGF cDNA encodes a 482 amino acid (aa) polypeptide with a 10 aa propeptide. The protein is localized mostly within the producer cells. N-terminal truncation, resulting in proteins lacking 10 aa and 6 aa, has been observed in PD-ECGF purified from platelets and placenta, respectively. In solution, PD-ECGF exists as a non-disulfide linked homodimer. The latter protein was purified from quiescent astrocytes and described as an astrocyte and astrocytoma cell growth inhibitor based on its ability to inhibit ^{3}H-thymidine incorporation.

References:

1. Haraguchi, M. *et al.* (1994) Nature **368**:198.
2. Toi, M. *et al.* (2005) Lancet Oncol. **6**:158.
3. Akiyama, S. *et al.* (2004) Canc. Sci. **95**:851.

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