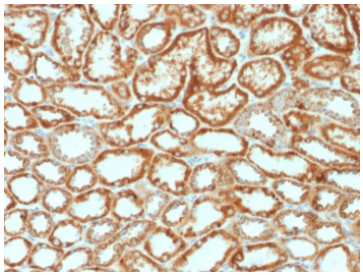
EPO Antibody / Hypoxia Response Hormone Antibody [clone EPO/1368] (V3373)

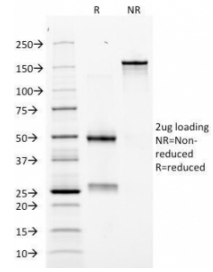
Catalog No.	Formulation	Size
V3373-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3373-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3373SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

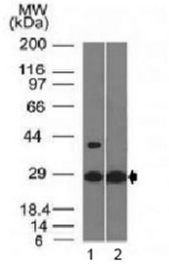
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	EPO/1368
Purity	Protein G affinity chromatography
UniProt	P01588
Localization	Cell surface, cytoplasmic
Applications	ELISA : 2-4ug/ml (order BSA/azide-free format) Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 2-4ug/ml for 30 min at RT
Limitations	This EPO Antibody / Hypoxia Response Hormone Antibody is available for research use only.



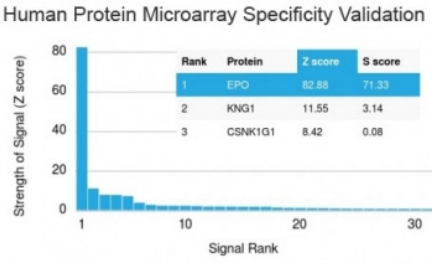
EPO Antibody Renal Cell Carcinoma IHC. Immunohistochemistry analysis of FFPE human renal cell carcinoma tissue using EPO Antibody demonstrates HRP-DAB brown cytoplasmic staining in tumor epithelial cells lining renal tubular structures, consistent with erythropoietin (EPO) expression as a hypoxia response hormone, while surrounding stromal elements show lower signal; nuclei are counterstained blue. HIER: boil tissue sections in pH 6 10 mM citrate buffer for 10-20 min followed by cooling at room temperature for 20 min.



SDS-PAGE Analysis of Purified, BSA-Free EPO Antibody (clone EPO/1368). Confirmation of Integrity and Purity of the Antibody.



EPO Antibody WB. Western blot analysis using EPO Antibody (clone EPO/1368) detects bands in the range of approximately 18-34 kDa, consistent with the predicted molecular weight of erythropoietin (EPO), with multiple bands reflecting variable glycosylation states of this secreted glycoprotein hormone.



EPO Antibody Microarray Specificity Validation. Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using EPO Antibody (clone EPO/1368) demonstrates highly specific detection of erythropoietin (EPO), a hypoxia response hormone regulating erythropoiesis and oxygen homeostasis. The antibody shows a dominant signal for EPO with clear separation from other proteins on the array, supporting strong target specificity of clone EPO/1368. Z- and S-score: The Z-score represents the strength of signal generated when the antibody binds to a protein on the array, expressed as standard deviations above the mean signal, while the S-score reflects the difference between sequential Z-scores and indicates relative specificity compared to potential off-target interactions.

Description

Erythropoietin (EPO) is a secreted glycoprotein hormone encoded by the EPO gene and primarily produced in the kidney and liver, where it regulates red blood cell production in response to oxygen availability. EPO Antibody / Hypoxia Response Hormone Antibody (clone EPO/1368) targets this protein, which is synthesized intracellularly and secreted into circulation, with cytoplasmic staining typically observed in producing cells. EPO antibody, also referred to as Erythropoietin antibody in the literature, detects a key regulator of oxygen homeostasis and hematopoietic signaling. This antibody is part of a collection of Human Protein Microarray validated antibodies that have been screened for specificity across thousands of proteins.

Functionally, EPO plays a central role in erythropoiesis by stimulating the proliferation and differentiation of erythroid progenitor cells in the bone marrow. Its expression is tightly regulated by hypoxia-inducible factors (HIFs), which activate EPO transcription under low oxygen conditions. This hypoxia-driven signaling pathway allows organisms to adapt to reduced oxygen availability by increasing red blood cell production, thereby enhancing oxygen delivery to tissues. In addition to its hematopoietic function, EPO has been implicated in cytoprotective and anti-apoptotic signaling in various cell types.

EPO expression is most prominent in renal peritubular cells and hepatocytes, particularly under hypoxic conditions. In tissue sections, immunohistochemical staining typically reveals cytoplasmic localization within these cells, reflecting active synthesis of the hormone. Expression may also be detected in other tissues and tumor types, where local hypoxia and altered signaling pathways drive EPO production. In cancer, EPO expression has been associated with tumor survival, angiogenesis, and adaptation to hypoxic microenvironments.

Structurally, EPO is a heavily glycosylated protein with multiple N-linked glycosylation sites that influence its stability, secretion, and biological activity. The mature protein is secreted as a circulating hormone that binds to the erythropoietin

receptor (EPOR) on target cells, activating downstream signaling pathways that promote cell survival and proliferation. Glycosylation contributes to the observed variation in molecular weight during western blot analysis, where multiple forms of EPO may be detected depending on processing and modification states.

Altered EPO expression is associated with a range of physiological and pathological conditions, including anemia, chronic kidney disease, and cancer. In hypoxic tumors, increased EPO production contributes to tumor adaptation and progression, while in clinical settings, recombinant EPO is widely used to treat anemia. These diverse roles highlight the importance of EPO as both a physiological regulator and a disease-associated factor.

Supported by western blot, immunohistochemistry, and protein microarray validation, this antibody provides reliable detection of EPO across multiple experimental approaches. An EPO antibody is suitable for detecting this hypoxia response hormone in studies of erythropoiesis, oxygen sensing, and disease-related signaling pathways.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Titering of the EPO Antibody / Hypoxia Response Hormone Antibody may be required for optimal performance.

1. Required HIER: boil tissue sections in 10mM citrate buffer, pH 6, for 10-20 min.

Immunogen

A human recombinant partial protein was used as the immunogen for the EPO antibody.

Storage

Store the EPO antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

EPO antibody, Erythropoietin antibody, EPO hormone antibody, Erythropoietin hypoxia marker antibody, EPO glycoprotein hormone antibody