

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Progranulin/PGRN in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 30% cross-reactivity with recombinant mouse Progranulin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Progranulin/PGRN Thr18-Leu593 Accession # P28799
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.

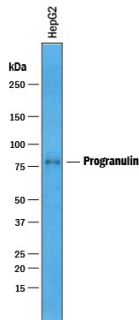
APPLICATIONS

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

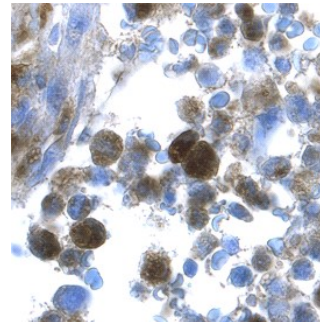
DATA

Western Blot



Detection of Human Progranulin/PGRN by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Progranulin/PGRN Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2420) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for Progranulin/PGRN at approximately 80 kDa (as indicated). This experiment was conducted under reducing conditions and using *Immunoblot Buffer Group 1*.

Immunohistochemistry



Progranulin in Human Breast Cancer Tissue. Progranulin was detected in paraffin-embedded sections of human breast cancer tissue using Goat Anti-Human Progranulin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2420) at 1.7 µg/mL overnight at 4 °C. 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](#).

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. <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

Progranulin, also known as acrogranin, PC cell-derived growth factor (PCDGF) and epithelin/granulin precursor, is a ubiquitously expressed, 88 kDa, secreted glycoprotein (1-3). Structurally, it does not belong to any of the well-established growth factor families (4). Human Progranulin is 593 amino acids (aa) in length and contains a 17 aa signal sequence and 5 potential sites for N-linked glycosylation (Swiss Prot # P28799). It has a highly repetitive organization, containing seven tandem copies of a 55-57 aa consensus motif that contains 12 conserved cysteine residues: VXCSX5-6CX5CCX8CCX6CCXDX2HCCPX4CX5-6CX2 (1). There is one alternate splice form for human Progranulin. This has a deletion of aa corresponding to aa 377-531 of the standard form. Progranulin is secreted as a full length form (2, 4), and may undergo proteolysis leading to the release of numerous peptides made from the seven tandem repeats, called the granulins (5-7). Human Progranulin shares 75% aa sequence identity with mouse and rat Progranulin. Progranulin is involved in the regulation of cellular proliferation, as well as differentiation, development, and pathological processes (4). It has been isolated as a differentially expressed gene during mesothelial differentiation (8), macrophage development (9), the development of rheumatoid arthritis and osteoarthritis (10), sexual differentiation of the brain (11), and has also been shown to be a mediator of cartilage proliferation and of wound response and tissue repair (4, 12 13). High levels of Progranulin expression have been found to be associated with several human cancers and are believed to contribute to tumorigenesis in breast cancer, clear cell renal carcinoma, invasive ovarian carcinoma, glioblastoma, adipocyte teratoma, and multiple myeloma (4-5, 12, 14-19). In addition, mutations in the Progranulin gene are a cause of frontotemporal dementia, and increased expression of Progranulin is seen in activated microglia in many neurodegenerative diseases including Creutzfeldt-Jakob disease, motor neuron disease and Alzheimer's disease (20). Mutations in Progranulin causing neurodegenerative disease indicate that Progranulin is important for neuronal survival (20).

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