

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Pappalysin-1/PAPP-A in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human PAPP-A2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Pappalysin-1/PAPP-A Glu82-Asp1214 Accession # Q13219
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunoprecipitation	Optimal dilution of this antibody should be experimentally determined.

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

BACKGROUND

Pappalysins belong to a fifth family of metzincins that consists of ADAMs/ADAMTSs, MMPs, astacins and serrylsins (1). PAPP-A is an important pregnancy protein and increases in plasma by a factor of about 150 during pregnancy as compared to the nonpregnant state. PAPP-A is also a major marker of Down syndrome in the first trimester of pregnancy because maternal serum levels of PAPP-A are significantly reduced when a fetus affected by Down syndrome is present (2). PAPP-A cleaves Insulin-like Growth Factor-Binding Protein-4 and -5 (IGFBP-4 and -5) at a single site, resulting in the release of bioactive IGF (3). Lack of IGFBP-4 cleavage in embryonic fibroblasts derived from PAPP-A knockout mice indicates that PAPP-A functions as a physiological IGFBP-4 protease (4). Three Lin12-Notch repeats (LNR) in the PAPP-A protein bind Ca²⁺ and are required for the cleavage of IGFBP-4, not IGFBP-5, by PAPP-A (5). The C-terminal LNR (residues 1476 to 1503) is not present in rhPAPP-A (residues 82 to 1214), which starts at the N-terminus of the mature chain and ends before the five Sushi (SCR) modules. As an active protease, rhPAPP-A cleaves IGFBP-5, which can be inhibited by 1,10-phenanthroline.

PRODUCT SPECIFIC NOTICES

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