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PSMD14 Antibody

Rabbit mAb
Catalog # AP92194

Product Information

Application	WB, IHC, IF, ICC, IHF
Primary Accession	O00487
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	26S proteasome non-ATPase regulatory subunit 14; PAD1; POH1; Psmd14; RPN11;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	34577

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human PSMD14
Description	Metalloprotease component of the 26S proteasome that specifically cleaves 'Lys-63'-linked polyubiquitin chains. The 26S proteasome is involved in the ATP-dependent degradation of ubiquitinated proteins. The function of the 'Lys-63'-specific deubiquitination of the proteasome is unclear.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

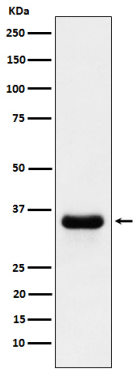
Protein Information

Name	PSMD14
Synonyms	POH1
Function	Component of the 26S proteasome, a multiprotein complex involved in the ATP-dependent degradation of ubiquitinated proteins. This complex plays a key role in the maintenance of protein homeostasis by removing misfolded or damaged proteins, which could impair cellular functions, and by removing proteins whose functions are no longer required. Therefore, the proteasome participates in numerous cellular processes, including cell cycle progression, apoptosis, or DNA damage repair (PubMed:9374539, PubMed:1317798). The PSMD14 subunit is a metalloprotease that specifically cleaves 'Lys-63'-linked polyubiquitin chains within the complex (PubMed:22909820). Plays a role in response to double-strand breaks (DSBs): acts as a regulator of non-homologous end joining (NHEJ) by cleaving 'Lys-63'-linked polyubiquitin, thereby promoting retention of JMJD2A/KDM4A on chromatin and restricting

TP53BP1 accumulation (PubMed:22909820). Also involved in homologous recombination repair by promoting RAD51 loading (PubMed:22909820). Regulates macroautophagy by ensuring Golgi-to-ER retrograde transport through its deubiquitinating activity on K63-linked ubiquitin chains. This activity prevents the retention of essential autophagy proteins at the Golgi, enabling their trafficking to autophagosome formation sites and supporting Golgi-ER membrane recycling critical for effective autophagy (PubMed:32210007).

Tissue Location Widely expressed. Highest levels in heart and skeletal muscle.

Images



Western blot analysis of PSMD14 expression in HeLa cell lysate.

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