abcam

Product datasheet

Human p21 Antibody Pair - BSA and Azide free ab241799

Recombinant   RabMAb

2 Images

Overview

Product name	Human p21 Antibody Pair - BSA and Azide free
Assay type	ELISA set
Range	62.5 pg/ml - 4000 pg/ml
Species reactivity	**Reacts with:** Human
Product overview	The Antibody Pair can be used to quantify Human p21. BSA and Azide free antibody pairs include unconjugated capture and detector antibodies suitable for sandwich ELISAs. The antibodies are provided at an approximate concentration of 1 mg/ml as measured by the protein A280 method. The recommended antibody orientation is based on internal optimization for ELISA-based assays. Antibody orientation is assay dependent and needs to be optimized for each assay type. Both capture and detector antibodies are rabbit monoclonal antibodies delivering consistent, specific, and sensitive results.
	For additional information on the performance of the antibody pair, see the equivalent SimpleStep ELISA® Kit (**ab214658**), which uses the same antibodies. However, due to differences in their formulation, this antibody pair cannot be used with the consumables provided with our SimpleStep ELISA Kits. Please note that the range provided for the pairs is only an estimation based on the performance of the related product using the same antibody pair. Performance of the antibody pair will depend on the specific characteristics of your assay. We guarantee the product works in sandwich ELISA, but we do not guarantee the sensitivity or dynamic range of the antibody pair in your assay.
Tested applications	**Suitable for:** Sandwich ELISA
Platform	Reagents

Properties

Storage instructions	Store at +4°C. Please refer to protocols.
Carrier free	Yes

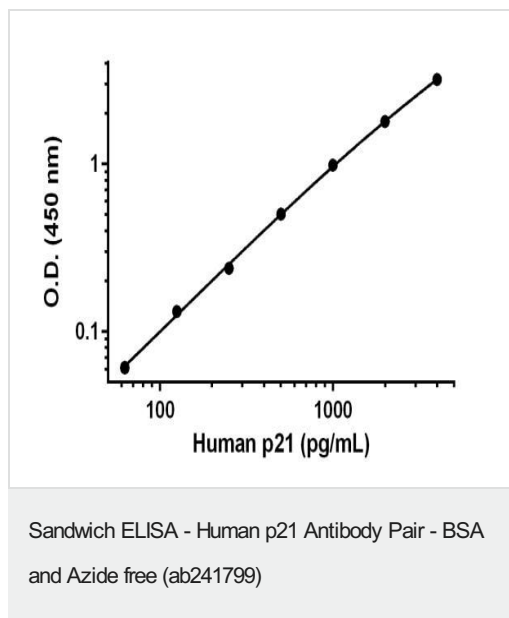| Components	10 x 96 tests
Human p21 Capture Antibody (unconjugated)	1 x 100µg
Human p21 Detector Antibody (unconjugated)	1 x 100µg

Function
May be the important intermediate by which p53/TP53 mediates its role as an inhibitor of cellular proliferation in response to DNA damage. Binds to and inhibits cyclin-dependent kinase activity, preventing phosphorylation of critical cyclin-dependent kinase substrates and blocking cell cycle progression. Functions in the nuclear localization and assembly of cyclin D-CDK4 complex and promotes its kinase activity towards RB1. At higher stoichiometric ratios, inhibits the kinase activity of the cyclin D-CDK4 complex.

Tissue specificity
Expressed in all adult human tissues, with 5-fold lower levels observed in the brain.

Sequence similarities
Belongs to the CDI family.

Domain
The PIP-box K+4 motif mediates both the interaction with PCNA and the recuitment of the DCX(DTL) complex: while the PIP-box interacts with PCNA, the presence of the K+4 submotif, recruits the DCX(DTL) complex, leading to its ubiquitination.
The C-terminal is required for nuclear localization of the cyclin D-CDK4 complex.

Post-translational modifications
Phosphorylation of Thr-145 by Akt or of Ser-146 by PKC impairs binding to PCNA. Phosphorylation at Ser-114 by GSK3-beta enhances ubiquitination by the DCX(DTL) complex. Ubiquitinated by MKRN1; leading to polyubiquitination and 26S proteasome-dependent degradation. Ubiquitinated by the DCX(DTL) complex, also named CRL4(CDT2) complex, leading to its degradation during S phase or following UV irradiation. Ubiquitination by the DCX(DTL) complex is essential to control replication licensing and is PCNA-dependent: interacts with PCNA via its PIP-box, while the presence of the containing the 'K+4' motif in the PIP box, recruit the DCX(DTL) complex, leading to its degradation.

Cellular localization
Cytoplasm. Nucleus.

Applications

The Abpromise guarantee
Our **Abpromise guarantee** covers the use of ab241799 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Sandwich ELISA		Use at an assay dependent concentration.

Images

Example of Human p21 standard curve. Background-subtracted data values (mean +/- SD) are graphed.

Sandwich ELISA - Human p21 Antibody Pair - BSA and Azide free (ab241799)

To learn more about the advantages of recombinant antibodies see **here**.

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