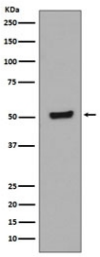
# Phospho-p53 (pThr55) Antibody / p53 Stability and Turnover Regulation Marker [clone DGO-20] (RQ5067)

| Catalog No. | Formulation | Size |
|---|---|---|
| RQ5067 | Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA | 100 ul |

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-2 weeks |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Rabbit Monoclonal |
| **Isotype** | Rabbit IgG |
| **Clone Name** | DGO-20 |
| **Purity** | Affinity purified |
| **UniProt** | P04637 |
| **Applications** | Western blot: 1:500-1:2000 |
| **Limitations** | This Phospho-p53 (pThr55) Antibody / p53 Stability and Turnover Regulation Marker is available for research use only. |




Phospho-p53 Antibody HEK293 WB. Western blot analysis of human HEK293 cell lysates treated with Calyculin A and okadaic acid using phospho-p53 antibody detecting p53 phosphorylated at Thr55, clone DGO-20. A band is detected at approximately 53 kDa, consistent with the predicted molecular weight of p53. Detection under phosphatase inhibition conditions is consistent with accumulation of phosphorylated p53 and regulation of p53 stability and turnover.

## Description

Tumor protein p53 (TP53) is a central regulator of cell cycle arrest, apoptosis, and genomic stability, functioning as a tumor suppressor that responds to a wide range of cellular stresses. Phospho-p53 (pThr55) Antibody, clone DGO-20, is designed to detect p53 phosphorylated at threonine 55, a regulatory site associated with modulation of p53 stability and proteasomal degradation. Unlike classic activation-associated phosphorylation sites, Thr55 plays a key role in controlling

p53 protein turnover and steady-state levels within the cell.

Under basal conditions, p53 is maintained at low levels through continuous ubiquitination and degradation mediated primarily by the E3 ubiquitin ligase MDM2. Phosphorylation events can either stabilize or destabilize p53 depending on the specific residue involved. Phosphorylation at Thr55 has been linked to regulation of p53 degradation pathways and may influence interactions with MDM2 and other regulatory proteins that govern protein stability. As a result, detection of Thr55 phosphorylation provides insight into mechanisms controlling p53 turnover rather than direct transcriptional activation.

Phosphorylation at Thr55 is dynamically regulated and can be enhanced under conditions where phosphatase activity is inhibited, such as treatment with Calyculin A or okadaic acid. These treatments lead to accumulation of phosphorylated p53 species, allowing experimental assessment of phosphorylation-dependent regulatory mechanisms. This makes phospho-p53 (Thr55) particularly useful for studying post-translational regulation of p53 and the balance between protein stabilization and degradation.

Unlike phosphorylation sites such as Ser33 or Ser15 that are strongly associated with DNA damage signaling and transcriptional activation of p53 target genes, Thr55 phosphorylation reflects regulatory processes that fine-tune p53 levels within the cell. This distinction is important in studies focused on protein turnover, ubiquitination pathways, and signaling mechanisms that control p53 availability rather than its downstream transcriptional activity.

Subcellularly, phosphorylated p53 is predominantly localized in the nucleus, where p53 functions as a transcription factor, although cytoplasmic localization may also be observed depending on cellular conditions and signaling context. Immunodetection of Thr55 phosphorylation typically reveals nuclear staining patterns consistent with its role in regulatory control of p53 stability.

Dysregulation of p53 stability is a hallmark of many cancers, where altered degradation pathways contribute to impaired tumor suppressor function. Understanding phosphorylation-dependent regulation at sites such as Thr55 is therefore important for studying tumor biology, therapeutic resistance, and the mechanisms that control p53 protein levels. Phospho-p53 (pThr55) Antibody, clone DGO-20, enables selective detection of this regulatory modification, supporting studies of p53 turnover, stability, and post-translational control.

This antibody is part of our full phospho antibody collection which can be explored for additional phosphorylation-specific targets and pathway markers.

## Application Notes

Optimal dilution of the Phospho-p53 (pThr55) Antibody / p53 Stability and Turnover Regulation Marker should be determined by the researcher.

## Immunogen

A synthetic peptide specific to human p53 (surrounding pT55) was used as the immunogen for the Phospho-p53 (pThr55) Antibody.

## Storage

Store the Phospho-p53 (pThr55) Antibody at -20oC.

## Alternate Names

Phospho-p53 antibody, p53 pThr55 antibody, p53 Thr55 antibody, TP53 phospho antibody, phosphorylated p53 antibody, p53 stability marker antibody, clone DGO-20 antibody

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