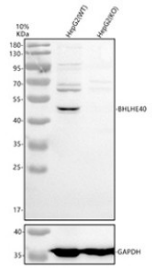
BHLHE40 Antibody / SHARP2 Polyclonal Antibody (FY13684)

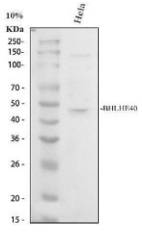
Catalog No.	Formulation	Size
FY13684	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

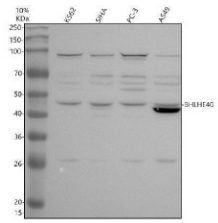
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O14503
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5 ug/ml
Limitations	This BHLHE40 Antibody / SHARP2 Polyclonal Antibody is supplied exclusively for research use.



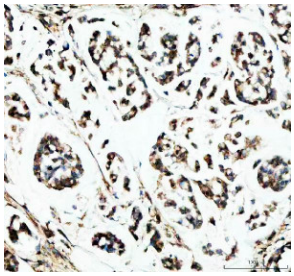
BHLHE40 Antibody WB Analysis of Wild-Type and BHLHE40 Knockout Human HepG2 Cells. Western blot analysis of human HepG2 wild-type (WT, lane 1) and BHLHE40 knockout (KO, lane 2) whole-cell lysates using SHARP2 Polyclonal Antibody at 0.5 ug/ml. Each lane contained 30 ug of total protein separated by 10% SDS-PAGE under reducing conditions. A prominent immunoreactive band near 46 kDa is detected in WT lysate and is markedly reduced in the KO sample, supporting target-dependent recognition at the expected molecular weight. GAPDH serves as the loading control.



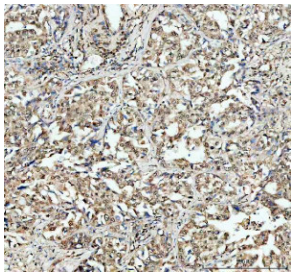
BHLHE40 Antibody WB Analysis of Human HeLa Cell Lysate. Western blot analysis of human HeLa whole-cell lysate using SHARP2 Polyclonal Antibody at a dilution of 1:1000. A principal immunoreactive band is detected near 46 kDa, consistent with the calculated molecular weight of approximately 45.5 kDa for BHLHE40.



BHLHE40 Antibody WB Analysis of Human K562, SiHa, PC-3 and A549 Cell Lysates. Western blot analysis of human K562 (lane 1), SiHa (lane 2), PC-3 (lane 3), and A549 (lane 4) whole-cell lysates using SHARP2 Polyclonal Antibody at 0.5 ug/ml. Immunoreactive bands are detected near 46 kDa in all four samples, consistent with the calculated molecular weight of BHLHE40.



BHLHE40 Antibody IHC Staining of Human Breast Cancer Tissue. Immunohistochemical analysis of FFPE human breast cancer tissue using SHARP2 Polyclonal Antibody at a dilution of 1:100. Brown DAB immunoreactivity is observed in tumor-associated epithelial structures, with heterogeneous staining involving both nuclear and cytoplasmic regions. Heat-induced epitope retrieval was performed using EDTA buffer, pH 8.0.



BHLHE40 Antibody IHC Staining of Human Lung Adenocarcinoma Tissue. Immunohistochemical analysis of FFPE human lung adenocarcinoma tissue using SHARP2 Polyclonal Antibody at a dilution of 1:100. Brown DAB immunoreactivity is distributed among tumor-associated cells, with heterogeneous staining involving cytoplasmic and nuclear regions. Heat-induced epitope retrieval was performed using EDTA buffer, pH 8.0.

Description

BHLHE40 Antibody / SHARP2 Polyclonal Antibody targets basic helix-loop-helix family member e40 (BHLHE40), a transcription factor also known as SHARP2, DEC1, STRA13, and BHLHB2. BHLHE40 regulates gene expression through interactions with DNA regulatory elements and other transcriptional proteins. It belongs to the basic helix-loop-helix family, whose members participate in cellular differentiation, developmental processes, and responses to environmental signals. BHLHE40 functions primarily as a transcriptional repressor, although its regulatory effects depend on promoter context and interacting proteins.

BHLHE40 contains a basic DNA-binding region and a helix-loop-helix domain that supports protein dimerization. It recognizes E-box-related regulatory sequences and can suppress transcription through direct DNA binding or interactions with other transcription factors. These mechanisms allow BHLHE40 to influence networks controlling cell proliferation, differentiation, and adaptation to changing physiological conditions. Its transcriptional activity is influenced by cellular signaling pathways and the availability of regulatory cofactors.

One important function of BHLHE40 is its participation in circadian rhythm regulation. The protein interacts with components of the molecular circadian clock, including CLOCK and ARNTL/BMAL1, and can repress transcription of clock-controlled genes such as PER1. Through these interactions, BHLHE40 contributes to feedback mechanisms that influence rhythmic gene expression and coordinate cellular activities with daily environmental cycles.

BHLHE40 also participates in responses to hypoxia and cellular stress. Its expression can be regulated by hypoxia-associated signaling pathways, allowing it to influence transcriptional programs involved in adaptation to reduced oxygen availability. Depending on cellular context, BHLHE40 has been associated with changes in proliferation, apoptosis, and differentiation. These effects reflect its ability to regulate multiple target genes rather than a single downstream pathway.

In immune cells, BHLHE40 contributes to transcriptional programs associated with activation and functional differentiation. Studies have linked its activity to cytokine regulation and the maintenance of specific immune cell states.

Its importance extends to inflammatory responses, where altered expression may influence the balance between activating and suppressive transcriptional mechanisms.

BHLHE40 has also attracted attention in cancer biology because its expression and regulatory activities vary among tumor types. BHLHE40 Antibody supports investigations into circadian transcriptional control, cellular stress adaptation, immune regulation, and the context-dependent functions of this transcription factor.

Explore additional antibodies targeting transcription factors, cell differentiation regulators, and proteins involved in cellular stress responses in our Cell Biology Antibodies collection.

Application Notes

Users should optimize the working dilution of the BHLHE40 Antibody / SHARP2 Polyclonal Antibody for their specific experimental setup.

Immunogen

The BHLHE40 Antibody was generated using e. coli-derived human Basic helix-loop-helix family member e40 recombinant protein (amino acids A31-D412).

Storage

Once reconstituted, refrigerate the BHLHE40 Antibody at 4oC for no longer than one month. For extended storage, freeze aliquots at -20oC for up to six months and avoid repeated freeze-thaw cycles.

Alternate Names

SHARP2 antibody, DEC1 antibody, STRA13 antibody, BHLHB2 antibody, Basic helix-loop-helix family member e40 antibody, Basic helix-loop-helix protein 40 antibody, Differentiated embryo chondrocyte expressed gene 1 antibody, Stimulated by retinoic acid 13 antibody, Class E basic helix-loop-helix protein 40 antibody, BHLHE40 transcription factor antibody

Copyright © NSJ Bioreagents. All rights reserved.