10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DDIT3 / CHOP Antibody
Rabbit Polyclonal Antibody
Catalog # ALS17237

Specification

DDIT3 / CHOP Antibody - Product Information

Application	**WB, IHC-P, IF**
Primary Accession	P35638
Other Accession	1649
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**19175**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **IF~~1:50~200**

DDIT3 / CHOP Antibody - Additional Information

Gene ID 1649

Other Names
DDIT3, CHOP10, DDIT-3, CHOP, GADD153, C/EBP zeta, C/EBP-homologous protein, C/EBP-homologous protein 10, CHOP-10

Target/Specificity
Human DDIT3 / CHOP

Reconstitution & Storage
PBS, pH 7.3, 0.02% sodium azide, 50% glycerol. Long term: -80°C; Short term: -20°C. Avoid freeze-thaw cycles.

Precautions
DDIT3 / CHOP Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

DDIT3 / CHOP Antibody - Protein Information

Name DDIT3

Synonyms CHOP, CHOP10, GADD153

Function
Multifunctional transcription factor in endoplasmic reticulum (ER) stress response (PubMed:15322075, PubMed:15775988, PubMed:19672300). Plays an

essential role in the response to a wide variety of cell stresses and induces cell cycle arrest and apoptosis in response to ER stress (PubMed:15322075, PubMed:15775988). Plays a dual role both as an inhibitor of CCAAT/enhancer-binding protein (C/EBP) function and as an activator of other genes (By similarity). Acts as a dominant-negative regulator of C/EBP-induced transcription: dimerizes with members of the C/EBP family, impairs their association with C/EBP binding sites in the promoter regions, and inhibits the expression of C/EBP regulated genes (By similarity). Positively regulates the transcription of TRIB3, IL6, IL8, IL23, TNFRSF10B/DR5, PPP1R15A/GADD34, BBC3/PUMA, BCL2L11/BIM and ERO1L (PubMed:15775988, PubMed:17709599, PubMed:20876114, PubMed:22761832). Negatively regulates; expression of BCL2 and MYOD1, ATF4-dependent transcriptional activation of asparagine synthetase (ASNS), CEBPA-dependent transcriptional activation of hepcidin (HAMP) and CEBPB-mediated expression of peroxisome proliferator-activated receptor gamma (PPARG) (PubMed:18940792, PubMed:19672300, PubMed:20829347). Together with ATF4, mediates ER- mediated cell death by promoting expression of genes involved in cellular amino acid metabolic processes, mRNA translation and the unfolded protein response (UPR) in response to ER stress (By similarity). Inhibits the canonical Wnt signaling pathway by binding to TCF7L2/TCF4, impairing its DNA-binding properties and repressing its transcriptional activity (PubMed:16434966). Plays a regulatory role in the inflammatory response through the induction of caspase-11 (CASP4/CASP11) which induces the activation of caspase-1 (CASP1) and both these caspases increase the activation of pro-IL1B to mature IL1B which is involved in the inflammatory response (By similarity). Acts as a major regulator of postnatal neovascularization through regulation of endothelial nitric oxide synthase (NOS3)-related signaling (By similarity).

Cellular Location
Cytoplasm. Nucleus Note=Present in the cytoplasm under non-stressed conditions and ER stress leads to its nuclear accumulation

Volume
50 µl

DDIT3 / CHOP Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DDIT3 / CHOP Antibody - Images

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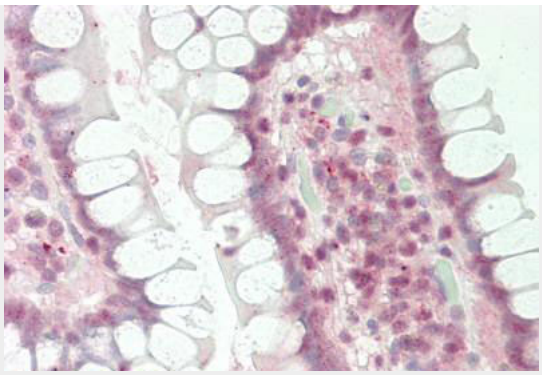
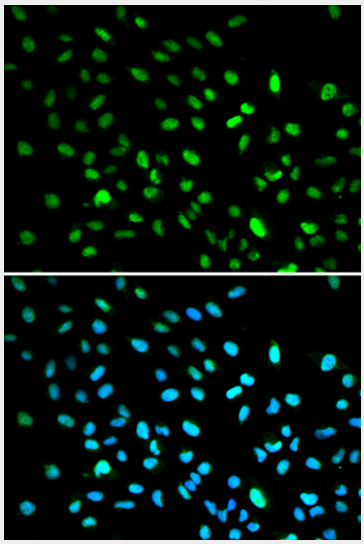
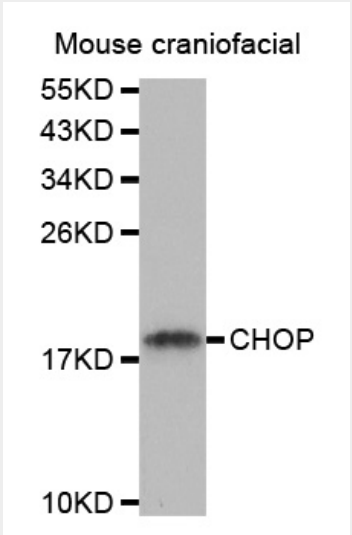


Human Small Intestine: Formalin-Fixed, Paraffin-Embedded (FFPE)



Immunofluorescence analysis of A549 cell using DDIT3 antibody. Blue: DAPI for nuclear staining.



Western blot analysis of extracts from mouse craniofacial tissue, using DDIT3 antibody.

DDIT3 / CHOP Antibody - Background

Multifunctional transcription factor in ER stress response. Plays an essential role in the response to a wide variety of cell stresses and induces cell cycle arrest and apoptosis in response to ER stress. Plays a dual role both as an inhibitor of CCAAT/enhancer-binding protein (C/EBP) function and as an

activator of other genes. Acts as a dominant-negative regulator of C/EBP-induced transcription: dimerizes with members of the C/EBP family, impairs their association with C/EBP binding sites in the promoter regions, and inhibits the expression of C/EBP regulated genes. Positively regulates the transcription of TRIB3, IL6, IL8, IL23, TNFRSF10B/DR5, PPP1R15A/GADD34, BBC3/PUMA, BCL2L11/BIM and ERO1L. Negatively regulates; expression of BCL2 and MYOD1, ATF4-dependent transcriptional activation of asparagine synthetase (ASNS), CEBPA-dependent transcriptional activation of hepcidin (HAMP) and CEBPB-mediated expression of peroxisome proliferator-activated receptor gamma (PPARG). Inhibits the canonical Wnt signaling pathway by binding to TCF7L2/TCF4, impairing its DNA-binding properties and repressing its transcriptional activity. Plays a regulatory role in the inflammatory response through the induction of caspase-11 (CASP4/CASP11) which induces the activation of caspase-1 (CASP1) and both these caspases increase the activation of pro-IL1B to mature IL1B which is involved in the inflammatory response.

DDIT3 / CHOP Antibody - References

Park J.S.,et al.Gene 116:259-267(1992).
Crozat A.,et al.Nature 363:640-644(1993).
Rabbitts T.H.,et al.Nat. Genet. 4:175-180(1993).
Li X.,et al.Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases.
Scherer S.E.,et al.Nature 440:346-351(2006).