

PRODUCT INFORMATION

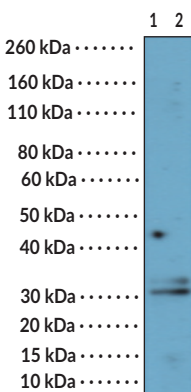
DDIT3 Rabbit Monoclonal Antibody (Clone RM485)

Item No. 42841

Overview and Properties

Contents:	This vial contains 100 µl of protein-A affinity purified antibody.
Synonyms:	CHOP, C/EBP ζ , C/EBP-homologous Protein, DNA Damage-inducible Transcript 3, DNA Damage-Induced Gene 153, Growth Arrest and DNA Damage-Inducible Protein 153, GADD153
Immunogen:	Peptide corresponding to the N-terminus of human DDIT3
Cross Reactivity:	(+) DDIT3
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	RM485
Host:	Rabbit
Isotype:	IgG
Applications:	Western blot (WB); the recommended starting dilution is 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



WB of SW620 cell lysate using
DDIT3 Rabbit Monoclonal Antibody
(Clone RM485) at a 1:1,000 dilution.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

DNA damage-inducible transcript 3 (DDIT3), also known as C/EBP-homologous protein (CHOP), is a transcription factor and member of the CCAAT/enhancer-binding protein (C/EBP) family.^{1,2} It is composed of an N-terminal transactivation domain and a C-terminal leucine zipper domain containing a DNA-binding region.² DDIT3 is ubiquitously expressed and found in the cytosol at low levels.¹ It is phosphorylated at serine 78 (Ser78) and Ser81 in response to endoplasmic reticulum (ER) stress, such as low calcium, glucose, or amino acid levels, and enters the nucleus and forms heterodimers with C/EBP family members to either promote or inhibit gene expression.^{1,3} DDIT3 induces apoptosis in response to calcium store depletion induced by nitric oxide (NO) in primary mouse pancreatic β -cells.⁴ It induces macrophage M1 polarization and increases tooth pulp inflammation in a mouse model of pulpitis.⁵ Knockdown of *DDIT3* restores erythropoiesis in hematopoietic stem cells isolated from patients with anemia.⁶ Cayman's DDIT3 Rabbit Monoclonal Antibody (Clone RM485) can be used for Western blot (WB).

References

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2. Poli, V. The role of C/EBP isoforms in the control of inflammatory and native immunity functions. *J. Biol. Chem.* **273**(45), 29279-29282 (1998).
3. Marwarha, G., Rostad, S., Lilek, J., et al. Palmitate increases β -site A β PP-cleavage enzyme 1 activity and amyloid- β genesis by evoking endoplasmic reticulum stress and subsequent C/EBP homologous protein activation. *J. Alzheimers Dis.* **57**(3), 907-925 (2017).
4. Oyadomari, S., Takeda, K., Takiguchi, M., et al. Nitric oxide-induced apoptosis in pancreatic beta cells is mediated by the endoplasmic reticulum stress pathway. *Proc. Natl. Acad. Sci. USA* **98**(19), 10845-10850 (2001).
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6. Berastegui, N., Ainciburu, M., Romero, J.P., et al. The transcription factor DDIT3 is a potential driver of dyserythropoiesis in myelodysplastic syndromes. *Nat. Commun.* **13**(1), 7619 (2022).

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