

PRODUCT INFORMATION



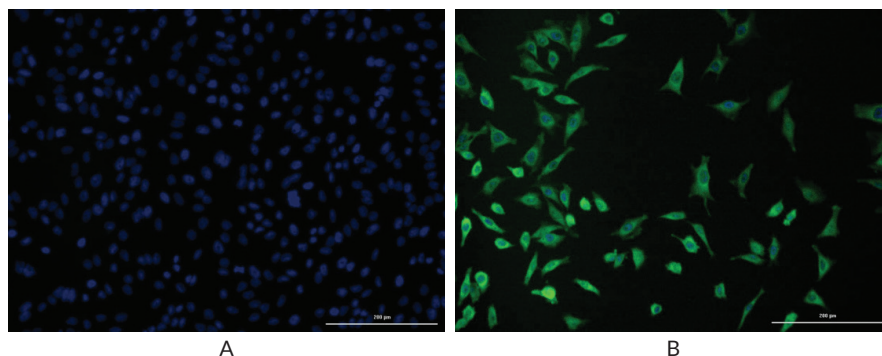
Optineurin (C-Term) Monoclonal Antibody (Clone 8E12)

Item No. 27230

Overview and Properties

Contents:	This vial contains 100 µg of protein G-purified monoclonal antibody.
Synonyms:	E3-14.7K-Interacting Protein, FIP-2, GLC1E, HIP7, Huntingtin-Interacting Protein L, Huntingtin-Interacting Protein 7, Huntingtin Yeast Partner L, HYPL, IP7, NRP, OPTN
Immunogen:	Peptide from C-terminal region of human optineurin protein
Species Reactivity:	(+) Human; other species not tested
Uniprot No.:	Q96CV9
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	8E12
Host:	Mouse
Isotype:	IgG1κ
Applications:	Immunocytochemistry (ICC); The optimal working concentration is 10 µg/ml. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Immunofluorescence staining of HeLa cells. Cells were fixed with 3.7% PFA, permeabilized, and blocked with 1% fetal bovine serum. Cells were probed with the indicated antibodies and counterstained with Hoescht. **Panel A:** No primary antibody control with Cayman's Goat Anti-Mouse (IgG+IgM) FITC secondary antibody (Item No. 10006617) at 1:100. **Panel B:** Optineurin Monoclonal Antibody (Clone 8E12) (Item No. 27230) at 1:100 followed by a goat anti-rabbit (IgG+IgM) FITC secondary antibody at 1:100.

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

Optineurin (OPTN) is an adapter protein with roles in autophagy, vesicular trafficking, and inflammatory responses to viral and bacterial pathogens.¹ OPTN binds to ubiquitinated cargo *via* its ubiquitin-binding domain and targets them for autophagic degradation by recruiting LC3-expressing phagophore membranes *via* its LC3-interacting region. It is phosphorylated by TANK binding kinase 1 (TBK1), which increases the binding affinity of OPTN for polyubiquitinated mitochondria, promotes TBK1 activation and recruitment to the mitochondria, and permits the degradation of damaged mitochondria *via* PINK1/parkin-dependent mitophagy.² OPTN regulates transferrin receptor trafficking and recycling by mediating the association between the membrane trafficking protein Rab8 and its activator TBC1D17.³ Mutation of the OPTN ubiquitin binding domain reduces LPS- and poly(I:C)-induced increases in IFN- β levels in bonemarrow-derived macrophages (BMDMs).⁴ OPTN knockout increases mortality and reduces plasma levels of TNF- α and IL-6 in a mouse model of *E. coli*-induced peritonitis.⁵ Mutations in *OPTN* are associated with primary open angle glaucoma, amyotrophic lateral sclerosis (ALS), Paget's disease, and Alzheimer's disease.^{1,6} Cayman's Optineurin Monoclonal Antibody (Clone 8E12) can be used for immunocytochemistry applications.

References

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2. He, L., Chen, L., and Li, L. The TBK1-OPTN axis mediates crosstalk between mitophagy and the innate immune response: A potential therapeutic target for neurodegenerative diseases. *Neurosci. Bull.* **33(3)**, 354-356 (2017).
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