Technical Data Sheet

Purified Mouse Anti-OPA1

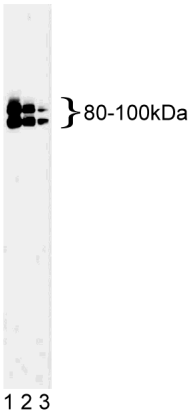
Product Information

Material Number:	**612606**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	18/OPA-1
Immunogen:	Human OPA1 aa. 708-830
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Dog, Rat, Mouse, Chicken
Target MW:	80-100 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

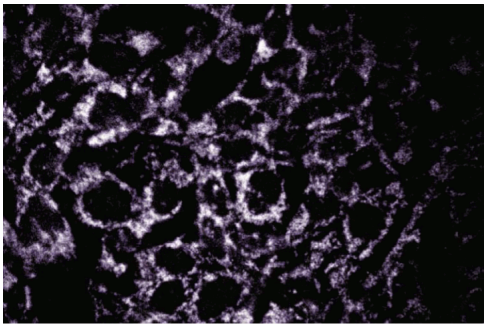
Description

Three major GTP-binding protein families include trimeric and low molecular weight G-proteins, as well as a family of large proteins homologous to dynamin. The dynamin family contains proteins with diverse structure and function, but highly homologous N-terminal GTPase domains. A subgroup of the dynamin G-protein-binding family includes the mitochondrial proteins Drp1/Dnm1, Mgm1, and OPA1. The latter protein is mutated in dominant optic atrophy, a disease that involves loss of visual acuity and atrophy of the optic nerve. OPA1 is expressed in heart, brain, liver, and kidney. The sequence of OPA1 includes an N-terminal region that contains a mitochondrial targeting domain and three GTP-binding motifs. The overexpression of OPA1 in Cos-7 cells shows co-localization with cytochrome c in mitochondria, and leads to alterations in mitochondrial morphology from a characteristic tubuluar shape to a vesicular pattern. Thus, OPA1 may have roles in mitochondrial biogenesis that are critical for normal cell function.

This antibody is routinely tested by western blot analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



Western blot analysis of OPA1 on a K-562 cell lysate (Human bone marrow myelogenous leukemia; ATCC CCL-243). *Lane 1: 1:500, lane 2: 1000, lane 3: 1: 2000 dilution of the mouse anti- OPA1 antibody.*



Immunofluorescence staining of COS-7 cells (African Green Monkey SV40 transformed kidney cells; ATCC CRL-1651).

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611550	K-562 Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Igs	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Igs	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Alexander C, Votruba M, Pesch UE, et al. OPA1, encoding a dynamin-related GTPase, is mutated in autosomal dominant optic atrophy linked to chromosome 3q28. *Nat Genet.* 2000; 26(2):211-215.(Biology)

Delettre C, Lenaers G, Griffoin JM, et al. Nuclear gene OPA1, encoding a mitochondrial dynamin-related protein, is mutated in dominant optic atrophy. *Nat Genet.* 2000; 26(2):207-210.(Biology)

Misaka T, Miyashita T, Kubo Y. Primary structure of a dynamin-related mouse mitochondrial GTPase and its distribution in brain, subcellular localization, and effect on mitochondrial morphology. *J Biol Chem.* 2002; 277(18):15834-15842.(Biology: Western blot)