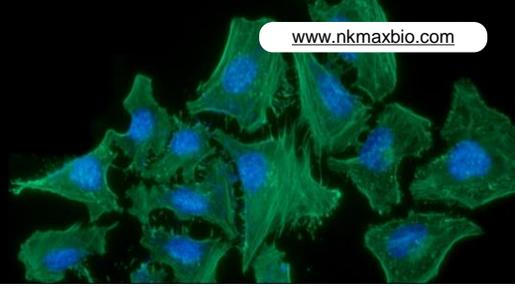


# Housekeeping gene



## Housekeeping gene

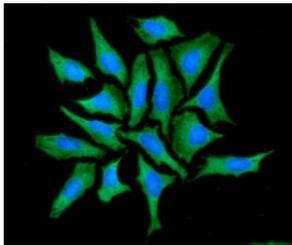
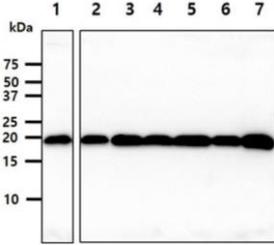
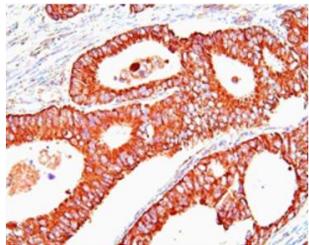
Housekeeping genes are involved in basic cell maintenance and, therefore, are expected to maintain constant expression levels in all cells and conditions. The synthesis of those molecules is often considered as being very few fluctuating in comparison to that of others and, by their commonplace use, are considered in many laboratories as constant and secure. Therefore, housekeeping genes are commonly used as internal standards in quantitative studies. (*Trends Genet.* 2013, *Journal of Biotechnology.* 1999)

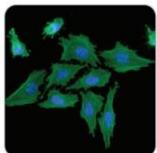
## Common Housekeeping Products

### •Monoclonal Antibodies

Product name	Clone No.	Applications	Isotype	Host	Cat No.
<b>beta-Actin</b>	AT4G6	ELISA, WB, ICC/IF	IgG <sub>1,k</sub>	M	<b>ATGA0570</b> BEST
<b>Actin/ACTA1</b>	AT2F5	ELISA, WB, ICC/IF	IgG <sub>2a,k</sub>	M	<b>ATGA0517</b>
<b>GAPDH</b>	AT4E8	ELISA, WB, ICC/IF	IgG <sub>2b,k</sub>	M	<b>ATGA0559</b> BEST
	AT4E8	ELISA, WB, ICC/IF	IgG <sub>2b,k</sub>	M	<b>ATGA0592</b>
	AT8G4	ELISA, WB, ICC/IF	IgG <sub>2b,k</sub>	M	<b>ATGA0181</b> BEST
<b>PCNA</b>	k1A3	ELISA, WB	IgG <sub>3,k</sub>	M	<b>APC0828</b>
<b>HSP60</b>	2E9	ELISA, WB, ICC/IF, IHC	IgG <sub>1,k</sub>	M	<b>AHS0815</b>
<b>beta-II Tubulin</b>	AT5B3	ELISA, WB, IHC	IgG <sub>2a,k</sub>	M	<b>ATGA0187</b>
	AT5B2	ELISA, WB, ICC/IF	IgG <sub>2b,k</sub>	M	<b>ATGA0196</b> BEST
<b>beta-III Tubulin</b>	AT2F5	ELISA, WB, ICC/IF, FACS	IgG <sub>1,k</sub>	M	<b>ATGA0343</b> BEST
<b>Cyclophilin B/PPIB</b>	k2E2	ELISA, WB, ICC/IF, FACS	IgG <sub>1,k</sub>	M	<b>ACB0825</b>
	k2E2	ELISA, WB, ICC/IF	IgG <sub>1,k</sub>	M	<b>ATGA0545</b>

M : Mouse

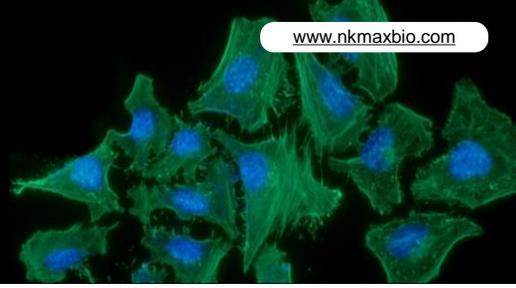
GAPDH antibody (AT4E8) (Cat No. ATGA0559)	Cyclophilin B/PPIB antibody (k2E2) (Cat No. ACB0825)	HSP60 antibody (2E9) (Cat No. AHS0815)
		
<b>ICC/IF</b> ICC/IF analysis of GAPDH in HeLa cells. The cell was stained with GAPDH antibody (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).	<b>Western blot</b> The cell lysates (40µg) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with Cyclophilin B/PPIB antibody (1:1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.	<b>IHC</b> Paraffin embedded sections of human colon cancer tissue were incubated with Hsp60 antibody (1:50) for 2 hours at room temperature. Antigen retrieval was performed in 0.1M sodium citrate buffer and detected using Diaminobenzidine (DAB).



## Human beta-Actin antibody Monoclonal Antibody

Get information about product features, quality and cost of NKMAX beta-Actin reagent.  
[NKMAX BIO > Support > Brochure > Beta-actin antibody](#)

# Housekeeping gene



GAPDH protein (Cat No. ATGP3433)	PCNA protein (Cat No. PDN0801)	Cyclophilin A/PPIA protein (Cat No. CYP0702)
<b>SDS-PAGE</b> 3µg by SDS-PAGE under reducing condition and visualized by coomassie blue stain.	<b>SDS-PAGE</b> 3µg by SDS-PAGE under reducing condition and visualized by coomassie blue stain.	<b>SDS-PAGE</b> 3µg by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

## • Recombinant Proteins

Product name	Species	Expression system	Tagging	Purity	Applications	Cat No.
GAPDH	H	<i>E. coli</i>	Non	>95%	SDS-PAGE	GDH0801
	H	<i>E. coli</i>	Non	>95%	SDS-PAGE, Enzyme Activity	ATGP3433 <b>BEST</b>
	M	<i>E. coli</i>	His	>95%	SDS-PAGE	ATGP2988
	M	<i>E. coli</i>	His	>95%	SDS-PAGE, Enzyme Activity	ATGP3434
PCNA	H	<i>E. coli</i>	Non	>95%	SDS-PAGE	PDN0801 <b>BEST</b>
HSP60	H	<i>E. coli</i>	His	>95%	SDS-PAGE	HSP0802 <b>BEST</b>
	H	<i>E. coli</i>	His	>90%	SDS-PAGE	ATGP2027
Cyclophilin A/PPIA	H	<i>E. coli</i>	His	>95%	SDS-PAGE, Enzyme Activity	CYP0702 <b>BEST</b>
	M	<i>E. coli</i>	His	>95%	SDS-PAGE	ATGP2981
	E	<i>E. coli</i>	His	>95%	SDS-PAGE	ATGP2983
Cyclophilin B/PPIB	H	<i>E. coli</i>	Non	>95%	SDS-PAGE, Enzyme Activity	CYP0701 <b>BEST</b>
	M	<i>E. coli</i>	His	>95%	SDS-PAGE, Enzyme Activity	ATGP3599

H : Human M : Mouse E : *E. coli*

## Publications

### [GAPDH]

Park SW, et al. Development of new tools to study membrane-anchored mammalian Atg8 proteins. *Autophagy*. 2022 Oct 17:1-20. [PMID: 36250672]

Hah YS, et al.  $\beta$ -Sitosterol Attenuates Dexamethasone-Induced Muscle Atrophy via Regulating FoxO1-Dependent Signaling in C2C12 Cell and Mice Model. *Nutrients*. 2022 Jul 14;14(14):2894. [PMID: 35889851]

Chang Y, et al. Clinical impact of serum exosomal microRNA in liver fibrosis. *PLoS One*. 2021 Sep 10;16(9):e0255672. [PMID: 34506494]

### [Cyclophilin A/PPIA]

Tsuda T, et al. Rho-associated protein kinase and cyclophilin a are involved in inorganic phosphate-induced calcification signaling in vascular smooth muscle cells. *J Pharmacol Sci*. 2020 Mar;142(3):109-115. [PMID: 31882204]

Kim K, Choe W. Recombinant human Cyclophilin A stimulates hair follicle cells via Wnt/ $\beta$ -catenin signaling pathway. *Biotechnol Lett*. 2019 Dec;41(12):1451-1458. [PMID: 31655924]

### [Cyclophilin B/PPIB]

Mukadam AS, et al. Analysis of novel endosome-to-Golgi retrieval genes reveals a role for PLD3 in regulating endosomal protein sorting and amyloid precursor protein processing. *Cell Mol Life Sci*. 2018 Jul;75(14):2613-2625. [PMID: 29368044]

### [HSP60]

Vilasi S, et al. Inhibition of A $\beta$ 1-42 Fibrillation by Chaperonins: Human Hsp60 Is a Stronger Inhibitor than Its Bacterial Homologue GroEL. *ACS Chem Neurosci*. 2019 Aug 21;10(8):3565-3574. [PMID: 31298838]

Marino C, et al. Hsp60 Protects against Amyloid  $\beta$  Oligomer Synaptic Toxicity via Modification of Toxic Oligomer Conformation. *ACS Chem Neurosci*. 2019 Jun 19;10(6):2858-2867. [PMID: 31091411]

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