

# INTERNAL CONTROLS

When Western Blot or other experiments are performed, loading controls are required to ensure that (1) the same amount of protein sample is loaded into each lane, (2) protein is transferred from the gel to membrane with equal efficiency across the whole membrane, and (3) antibody incubation and detection is uniform throughout the experimental procedure.

Loading controls must fulfill certain criteria before they are chosen as normalization factor to the protein changes in samples.

Follow our guide below to choose the best internal controls for your experiments!



## WHAT IS YOUR SAMPLE TYPE?

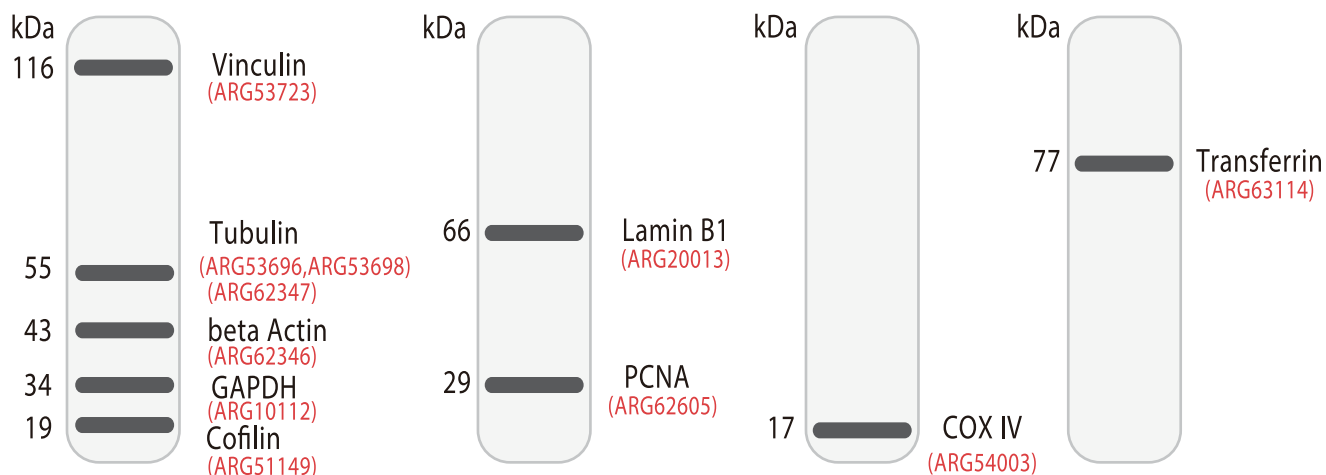
Whole Cell Lysate

Nuclear Extract

Mitochondrial Extract

Serum

CHOOSE A CONTROL WHICH ITS MOLECULAR WEIGHT IS DIFFERENT FROM YOUR PROTEIN OF INTEREST



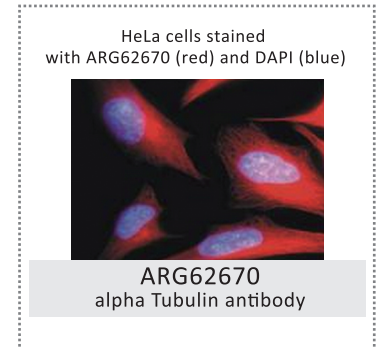
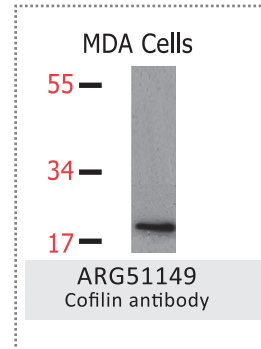
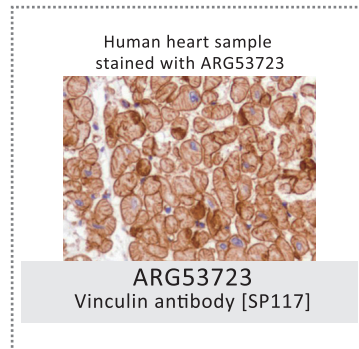
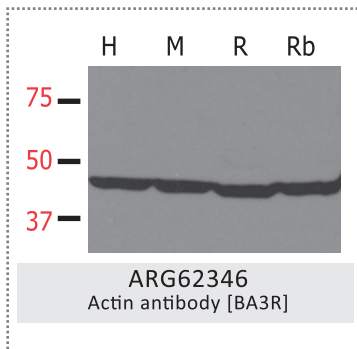
**CHECK POINT:** Find out here if your experimental settings could potentially affect the level of internal control in your samples.

If you have chosen:	Take note that:	Choose this instead:
Tubulins	Its expression can be affected by several anti-cancer and anti-fungal drugs.	beta Actin (ARG62346), GAPDH (ARG10112) or Cofilin (ARG51149)
beta Actin	It is a component of chromatin remodeling, hence not a suitable loading control for nuclear extractions.	Lamin B1 (ARG20013) or PCNA (ARG62605)
Lamin B1	Not suitable for use in samples without nuclear envelope	PCNA (ARG62605)
GAPDH	Its expression is up-regulated in hypoxia condition. Protein level differs among tissue sample types, tends to be higher in skeletal muscles, brain and heart.	beta Actin (ARG62346), Tubulins (ARG53696, ARG53698, ARG62347) or Cofilin (ARG51149)
PCNA	Should not be used as loading control in non-proliferating samples.	Lamin B1 (ARG20013)

## Internal Controls



Cat. No.	Product name	Clonality	Application	Reactivity
ARG10112	<b>GAPDH</b> antibody [6C5]	Mouse mAb	ELISA, ICC/IF, IHC-Fr, WB	H, M, R, Mk, Chk, Dm, Rb, Zf
ARG62346	<b>Actin</b> antibody [BA3R]	Mouse mAb	ELISA, FACS, ICC/IF, IP, WB	H, M, R, Chk, Rb
ARG62670	<b>alpha Tubulin</b> antibody [TU-01]	Mouse mAb	ELISA, FACS, ICC/IF, IHC-P, IP, WB	H, M, Cow, Dog, Pig
ARG53696	<b>alpha Tubulin</b> antibody	Rabbit pAb	ICC/IF, IHC-Fr, WB, IHC-P, IP	H, M, R, Pig, XI, Zf
ARG53698	<b>beta Tubulin</b> antibody	Rabbit pAb	CC/IF, IHC-Fr, IHC-P, IP, WB	H, M, Cow, Pig, R, Zf
ARG62347	<b>beta Tubulin</b> antibody [BT7R]	Mouse mAb	Dot, ELISA, ICC/IF, WB	H, M, R, Chk, Mk, Rb
ARG53723	<b>Vinculin</b> antibody [SP117]	Mouse mAb	IHC-P	H
ARG51149	<b>Cofilin</b> antibody	Rabbit pAb	IHC, IHC-P, WB	H, M, R
ARG62605	<b>PCNA</b> antibody [PC10]	Rabbit pAb	IHC-P, IP, WB, ICC/IF, IHC-Fr, FACS	H, M, R, Chk, Dm, Mk, Zf
ARG63114	<b>Transferrin</b> antibody [HTF-14]	Mouse mAb	ELISA, ICC/IF, IHC, RIA, WB, Functional Assay	H, Pig, Rb
ARG20013	<b>Lamin B1</b> antibody [ZL-5]	Mouse mAb	ELISA, ICC/IF, IP, WB	
ARG54003	<b>COX IV</b> antibody [4D11-B3-E8]	Mouse mAb	WB, FACS, ICC/IF, IP, IHC	H, M, R, Goat, Mk



## Epitope Tags



Cat. No.	Product name	Clonality	Application
ARG62337	<b>6x His tag</b> antibody [HIS.H8]	Mouse mAb	ICC/IF, ELISA, Dot, WB, IP, EMSA
ARG62338	<b>HA tag</b> antibody [HA.C5]	Mouse mAb	ChIP assay, FACS, WB, IP, ICC/IF
ARG62998	<b>GST tag</b> antibody [S-tag-05]	Mouse mAb	WB, IP
ARG62340	<b>V5 tag</b> antibody [E10 / V4RR]	Mouse mAb	IHC-P, ICC/IF, WB, ELISA, IHC-Fr, IP
ARG62341	<b>Myc tag</b> antibody [Myc.A7]	Mouse mAb	ICC/IF, ELISA, Dot, WB, IP
ARG62986	<b>DDDDK tag</b> antibody [F-tag-01]	Mouse mAb	ICC/IF, IP, WB
ARG62342	<b>DDDDK tag</b> antibody [FG4R]	Mouse mAb	ELISA, ICC/IF, IHC, IP, WB
ARG62993	<b>GFP</b> antibody	Rabbit pAb	ICC/IF, IP, WB
ARG62343	<b>GFP</b> antibody [GF28R]	Mouse mAb	ELISA, ICC/IF, IP, WB
ARG62344	<b>RFP</b> antibody [RF5R]	Mouse mAb	ELISA, ICC/IF, IHC, IP, WB

## Isotype Control



Cat. No.	Product name	Application
ARG65345	<b>Mouse IgG</b> isotype control antibody	ELISA, WB, IP, ID, IE
ARG65346	<b>Rabbit IgG</b> isotype control antibody	ELISA, WB, IP, ID, IE
ARG65347	<b>Goat IgG</b> isotype control antibody	ELISA, WB, IP, ID, IE

## Secondary Antibody



Cat. No.	Product name	Application
ARG65350	<b>Goat anti mouse IgG</b> antibody (HRP)	ELISA, IHC, WB
ARG65351	<b>Goat anti rabbit IgG</b> antibody (HRP)	ELISA, IHC, WB
ARG65352	<b>Donkey anti goat IgG</b> antibody (HRP)	ELISA, IHC, WB

