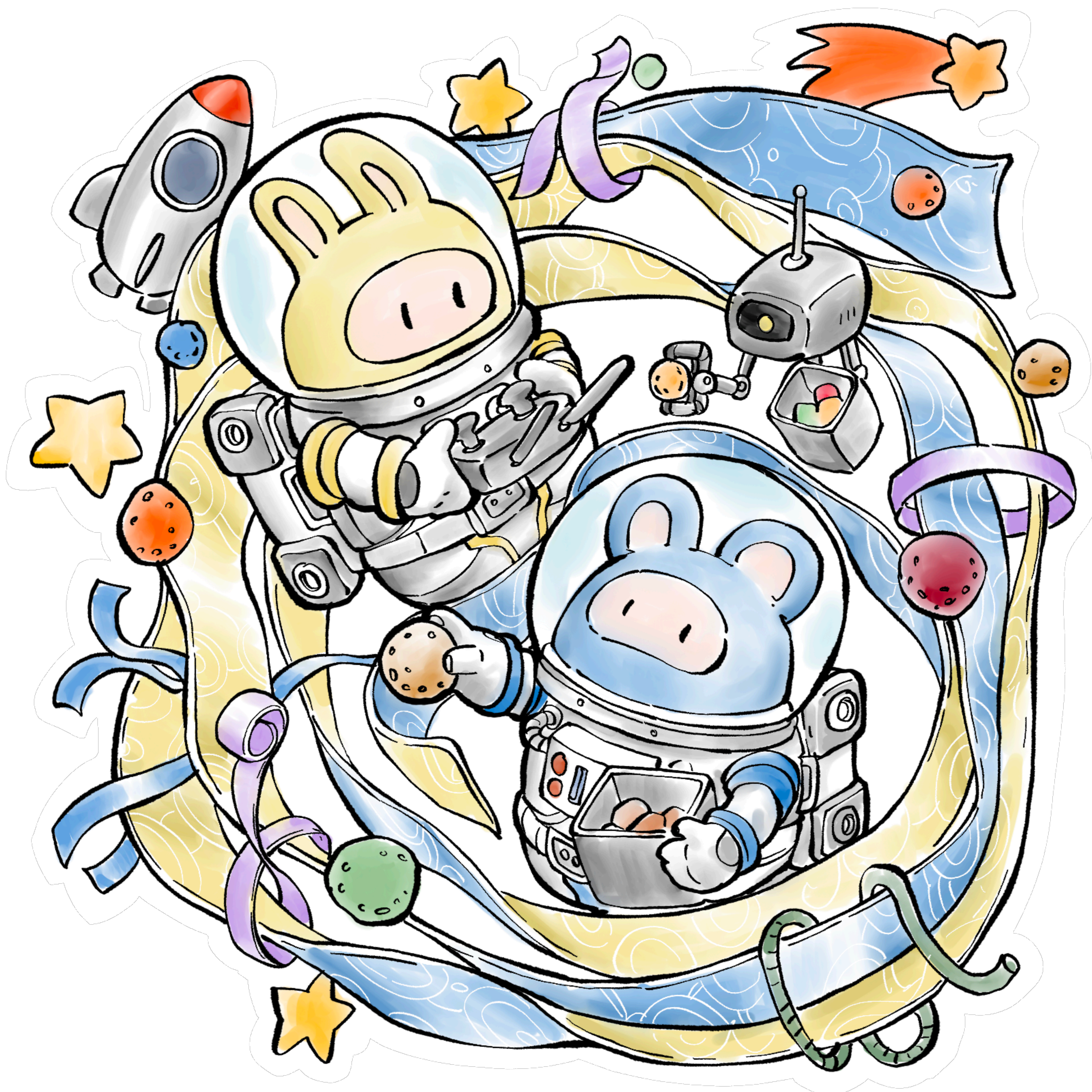


内参抗体手册

Guide for Loading Control Antibody



公司简介

ImmunoWay Biotechnology Company (简称Immunoway) 公司成立于2002年, 于2012年在美国德克萨斯州注册品牌。

公司于2014年投入研发病理级免疫组化专用抗体, 国际著名单克隆抗体专家指导研发, 免疫原针对免疫组化实验而设计, 单克隆细胞株的筛选, 抗体的验证均经过千张阳性切片和阴性切片检测, 明确组织定位和亚细胞定位, 抗体特异性强, 灵敏度高, 低背景, 按照体外诊断试剂备案和注册要求研发生产。临床免疫组化应用于病理的辅助诊断和鉴别诊断, 为疾病治疗提供客观的指导方案。目前抗体种类已近200种, 覆盖肿瘤病理诊断, 如乳腺癌, 宫颈癌, 结肠癌, 胃癌, 肝癌, 淋巴瘤, 前列腺癌, 甲状腺癌等所需检测指标的绝大部分。

自公司成立一直专注于抗体的研发和生产, 多克隆抗体种类达15000+, 单克隆抗体种类2000+, 检测液态样本Elisa试剂盒700+, 检测细胞样本Cell-Based Colorimetric ELISA Kits 2000+, 满足广大科研用户的使用和需求。

Immunoway将不断研发和生产出优质的抗体及相关产品, 为临床和广大科研工作者提供更好的工具, 共同服务于生命科学。

Immunoway产品线

200+ 病理级免疫组化专用抗体

15000 科研级一抗

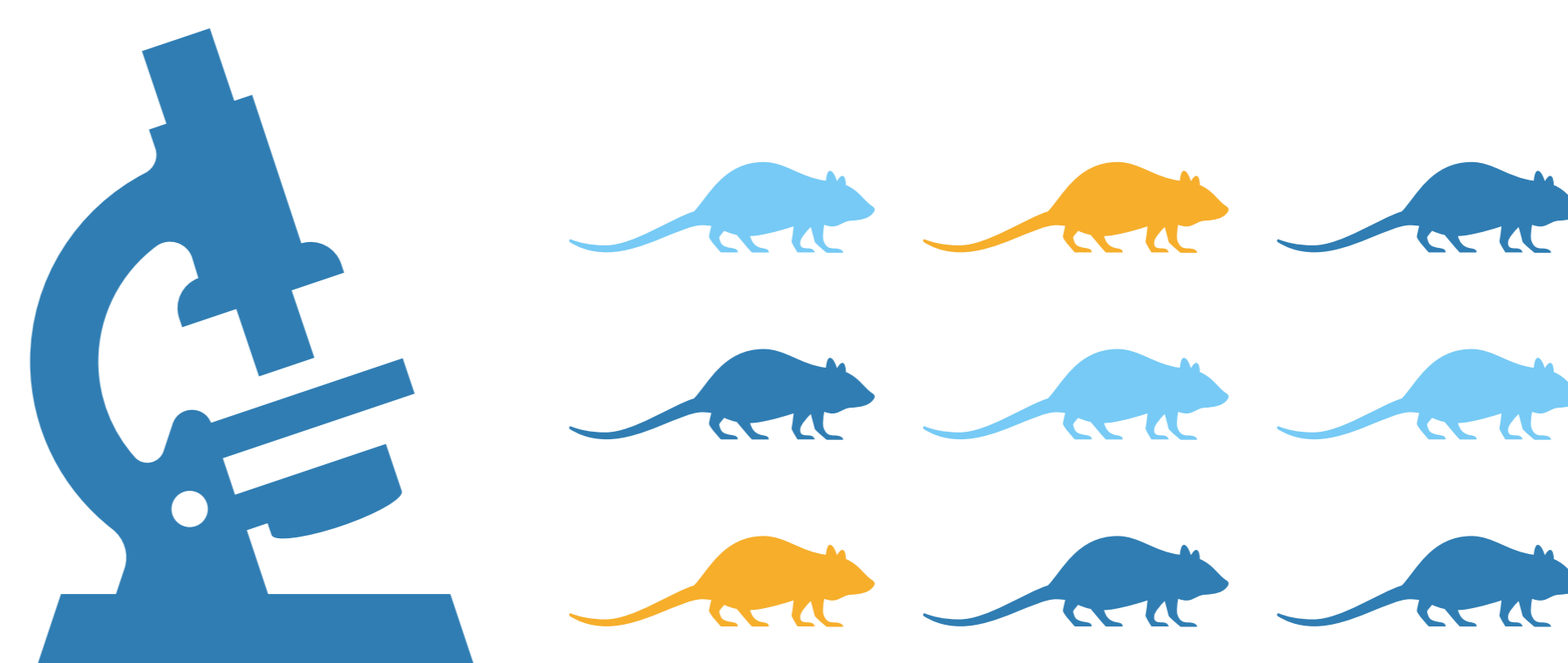
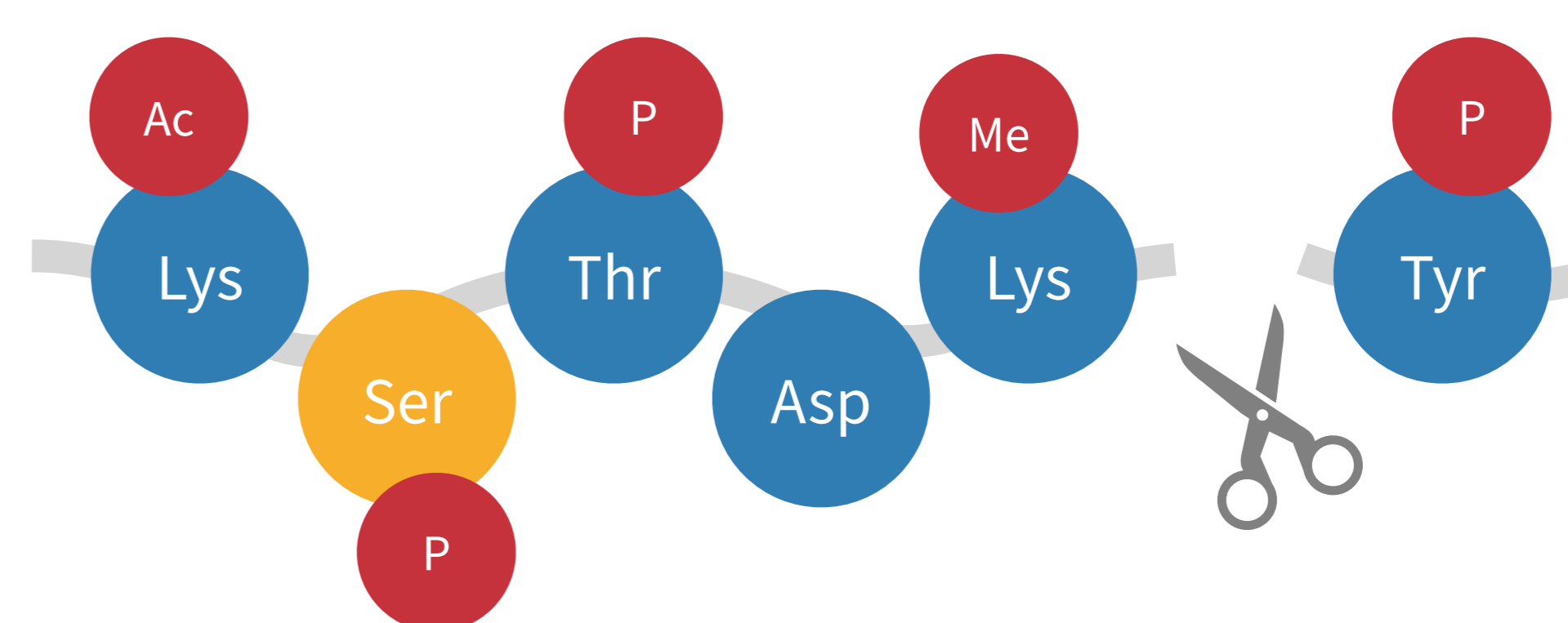
1300 小分子化合物

1000+ 二抗

200+ 标签内参荧光蛋白抗体

700+ ELISA试剂盒

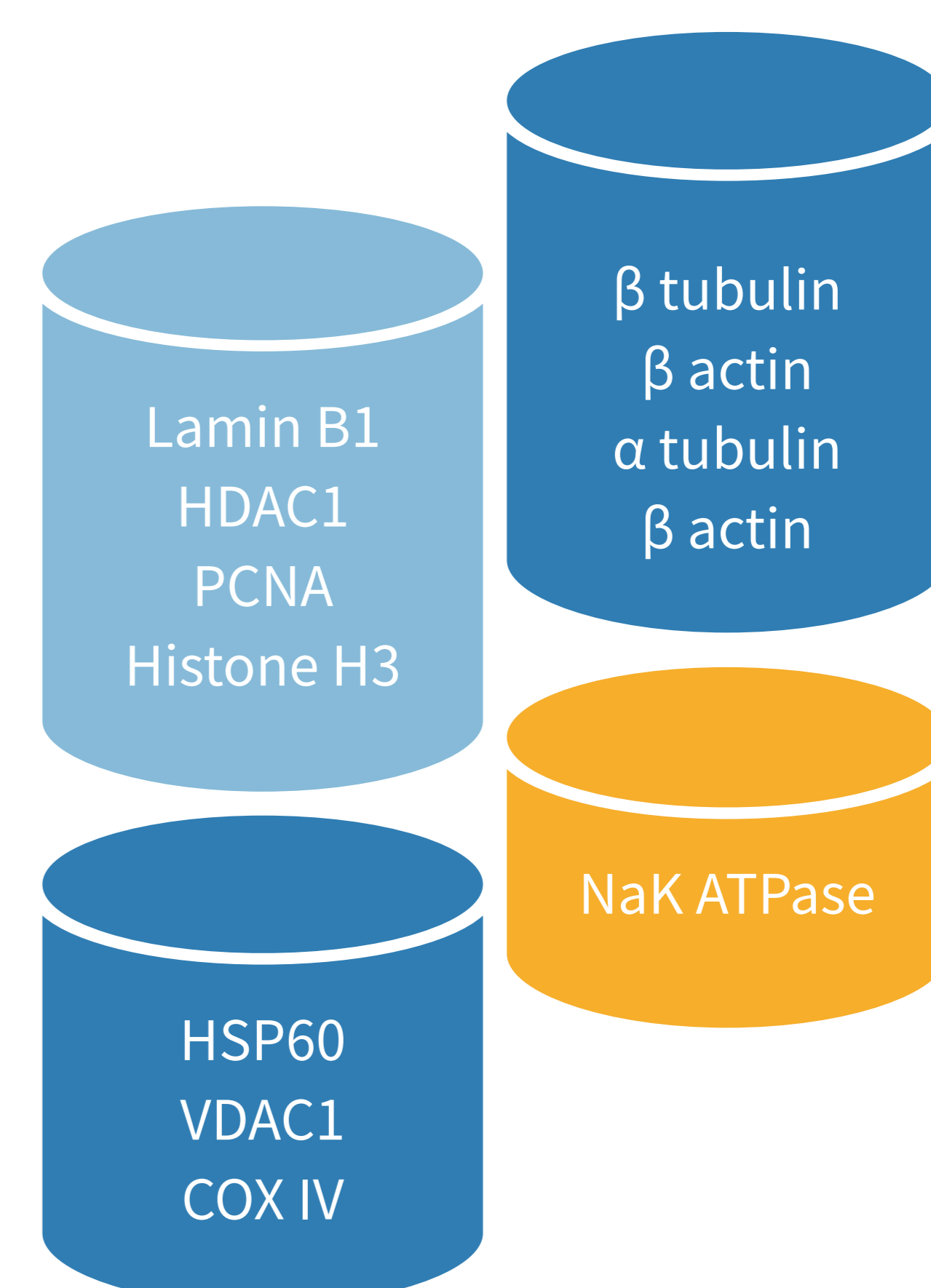
2000+ Cell-Based ELISA试剂盒



内参概念

在做Western Blot实验时，内参即是内部参照。内参基因在各组织和细胞中的表达相对恒定，在检测基因的表达水平变化时常用它来做参照物。其作用是校正样本上样量、上样过程中存在的实验误差，保证实验结果的准确性。借助检测每个样品内参的量就可以用于校正上样误差，这样半定量的结果才更为可信。一般选择一个在处理因素作用条件下不会发生表达改变的基因作内参。

最普通的内参是内源性参照基因,也叫管家基因。管家基因：又称持家基因(house-keeping genes)生物体各类细胞中都表达，其产物是对维持细胞基本生命活动所必需的蛋白质编码的基因。如微管蛋白基因、糖酵解酶系基因与核糖体蛋白基因等。是为维持细胞基本生命活动所需而时刻都在表达的基因。管家基因表达水平受环境因素影响较小，而是在个体各个生长阶段的大多数、或几乎全部组织中持续表达，或变化很小。它的表达只受启动序列或启动子与RNA聚合酶相互作用的影响，而不受其他机制调节。



内参选择原则

- ★ 高度或中度表达，表达稳定，排除低表达；
- ★ 稳定表达于不同类型的细胞和组织（如正常细胞和癌细胞），而且其表达量是近似的，无显著性差别；
- ★ 表达水平与细胞周期以及细胞是否活化无关；
- ★ 其稳定的表达水平与目标基因相似；
- ★ 不受任何内源性或外源性因素的影响，如不受任何实验处理措施的影响；
- ★ 不同样本来源选择不同，具体参照文献，如果是哺乳动物的组织或细胞，主要以 β -actin，GAPDH， β -tubulin，PCNA等为代表。如果是植物样本，主要以 actin、Rubisco 为代表；
- ★ 与目的蛋白大小最好在5kd以上差异；
- ★ 表达位置要区分，不同细胞器选择不同的内参蛋白。



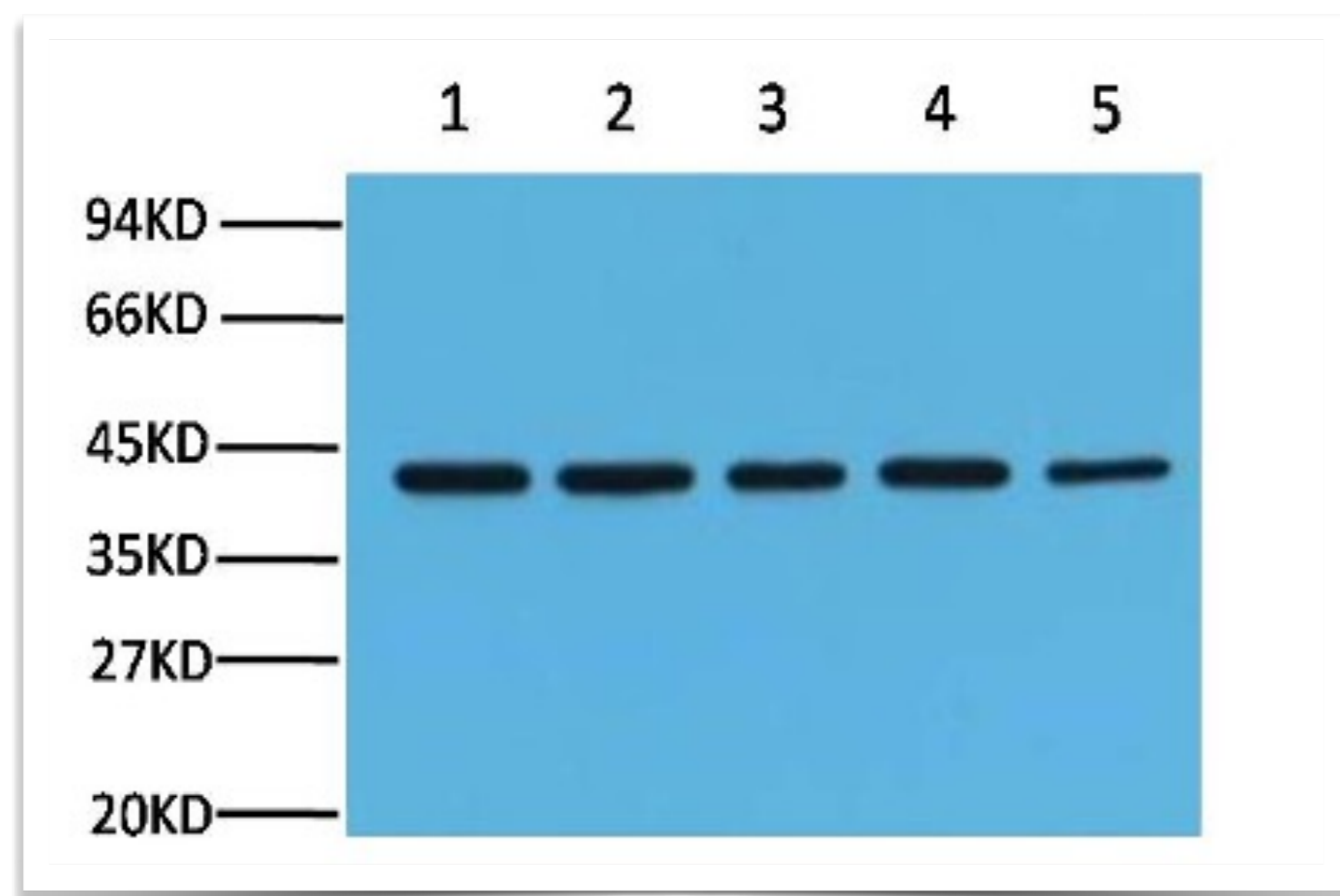
常用内参

β-actin, 肌动蛋白, 细胞骨架蛋白: 在各组织和细胞中表达相对恒定, 它广泛分布于细胞质内, 表达量非常丰富。

GAPDH, 甘油醛-3-磷酸脱氢酶: 该酶是糖酵解反应中的一个酶, 几乎在所有组织细胞中都高水平表达, 在同种细胞或组织中的表达量一般是恒定的, 且很少受外部诱导物的影响。

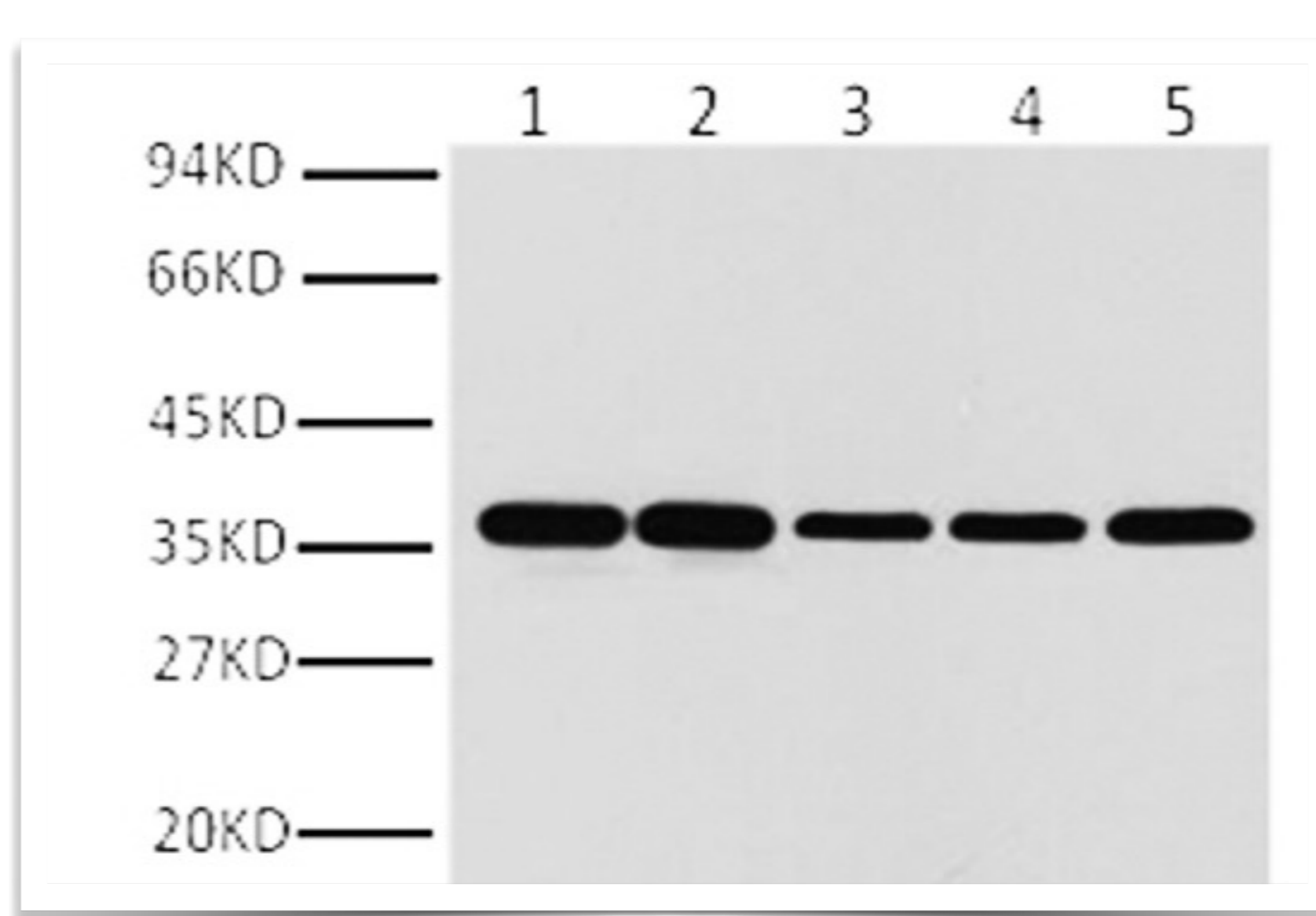
β-tubulin, 微管蛋白: 细胞骨架蛋白, 表达通常不会发生改变。

YM3028 β-actin mAb (5B7)



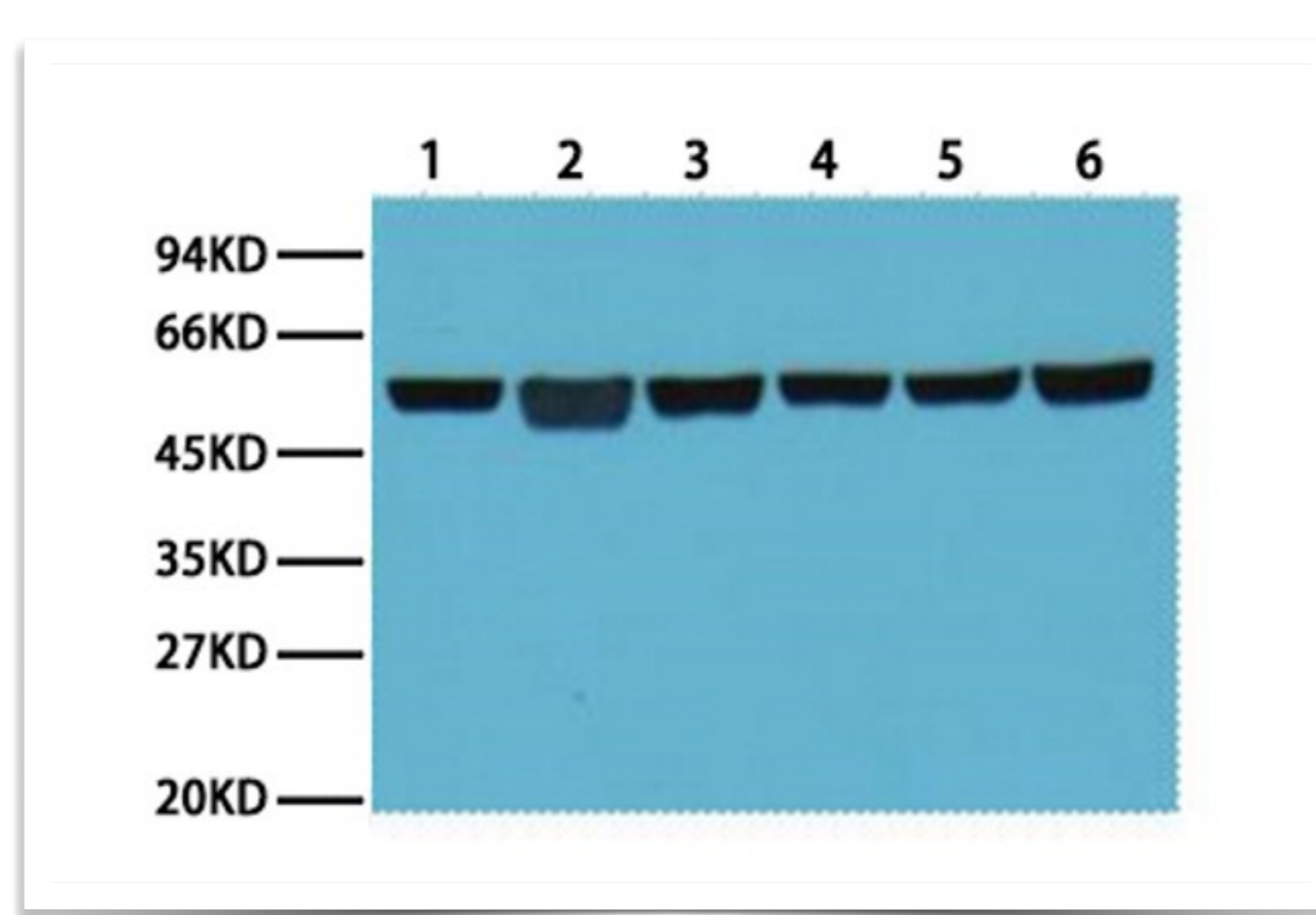
Western blot analysis of HeLa (1) Rat brain (2) Mouse brain (3) Chicken lung (4) and Rabbit testis (5), diluted at 1:10000.

YM3029 GAPDH mAb(2B8)



Western blot analysis of HeLa (1), Rat brain (2), Rabbit Muscle (3), Sheep Muscle (4), and Mouse brain (5), diluted at 1:10000.

YM3030 β-Tubulin mAb (5G3)



Western blot analysis of HeLa (1), Rat brain (2), Rabbit Muscle (3), Sheep Muscle (4), and Mouse brain (5), diluted at 1:10000.

内参抗体快速选择

分子量	全细胞	线粒体	细胞核	细胞膜	骨架	血清
125	Vinculin					
110				NaK ATPase		
75						Transferrin
66			Lamin B1			
60		HSP60				
55			HDAC1			
	Alpha tubulin				Alpha tubulin	
50	Beta tubulin				Beta tubulin	
			YY1			
	Actin				Actin	
40	Beta actin				Beta actin	
35	GAPDH		TBP			
30		VDAC1/Porin	PCNA			
	Cyclophin B					
20	Cofilin	COX IV			Cofilin	
15			Histone H3			

Immunoway内参抗体

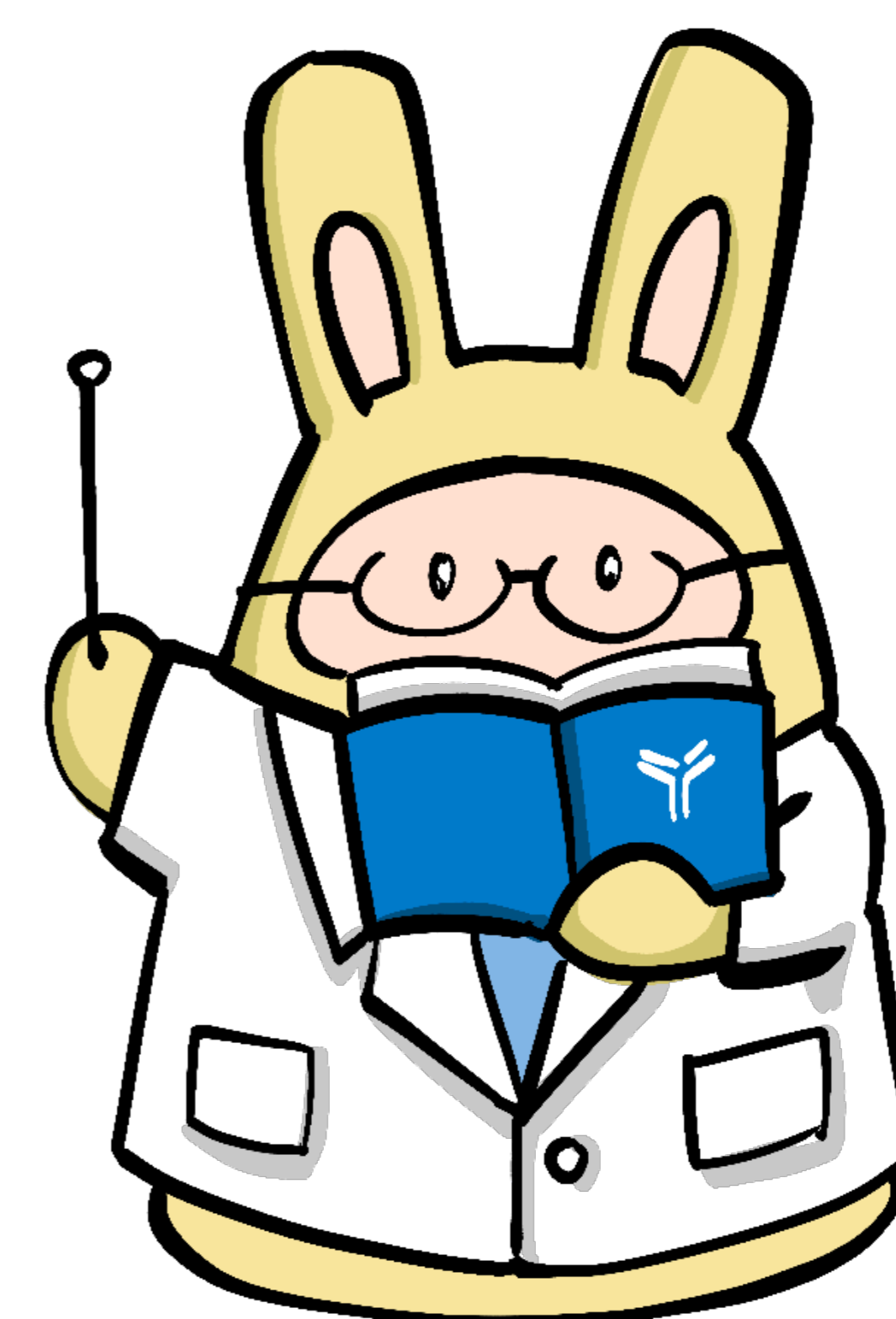
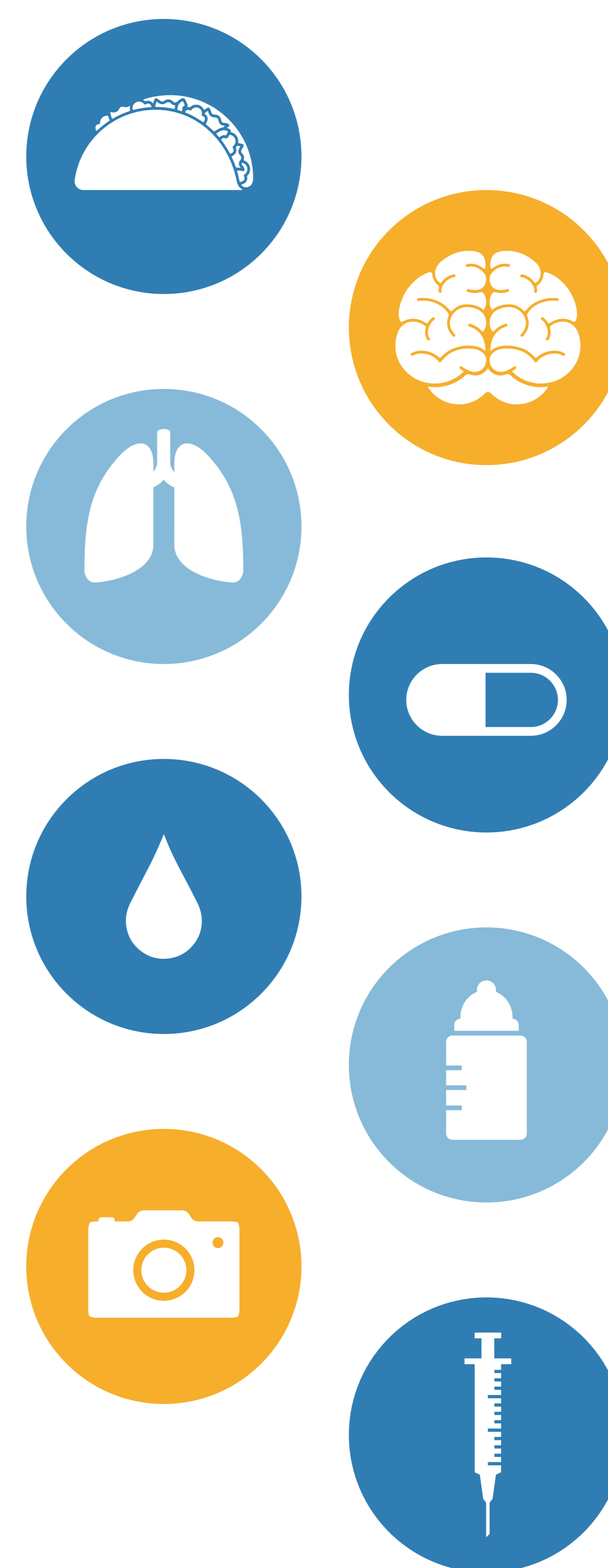
- ★ 抗体特异性强，灵敏度高，低背景，WB应用稀释比可达1:5000-20000；
- ★ 满足多种属应用，如H, R, M, Monkey, Dog, Chicken, Hamster, Rabbit, Pig, Sheep, Insect, Yeast 等；
- ★ 满足多种实验需求，如WB, IHC, IF, IP, Elisa等；
- ★ 超高性价比，国内现货。



注意事项

没有一种内参适用于所有组织和细胞，需根据具体情况进行选择：

- ★ 在脂肪组织里， β -Actin的表达量非常低，不适合作为内参。
- ★ 不同组织的细胞结构会有差异性，如脑组织的 tubulin 的表达会高一些（因为神经细胞的轴突和树突都由 tubulin 维持结构），而 actin 的表达量可能会低一些。再比如，骨骼肌、心肌和平滑肌的特殊功能反而导致了 tubulin 的表达改变和特化，这种情况可以选择GAPDH。
- ★ 缺氧和糖尿病等疾病存在下，会增加 GAPDH 在特定细胞和组织中的表达，不适合做内参。
- ★ 在加入抗癌和真菌药物时，tubulin表达受影响，不适合做为内参。细胞增殖，毒性，凋亡实验时，Lamin B1等不适合作为内参。没有核被膜的样品是不适合作为内参的。
- ★ 血红细胞（因为其细胞结构的特殊性和需要携带氧气的功能性）样本就不适合常用内参。可以选用血红细胞的结构蛋白作为内参代替。
- ★ 做各种分泌液样本的时候，如血浆，乳汁，组织液等，常用内参不适合。由于没有完整的细胞结构，所以只能选择一些分泌蛋白作为内参，或者采用其他方式作为内参。
- ★ 做诱导后样本或检测磷酸化等修饰性抗体时，选择结构蛋白作为内参，如 β -Actin 和 β -Tubulin。因为 GAPDH 是代谢类蛋白，表达量有可能会受到诱导处理的影响。
- ★ 做 Western Blot 实验时，蛋白上样量和内参的条带强度也要适当控制。内参条带不要过度曝光。如果内参条带过度曝光，掩盖样本之间含量差异，妨碍对条带正确强度的判读，进而影响对其他实验结果的判断。



内参抗体

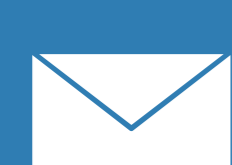
细胞器	名称	货号	产品名称	种属	应用	大小KD
胞浆	beta actin	YT0099	Actin β pAb	H,M,R,Fish	IF,WB,IHC-p,ELISA	42
		YM3028	β -actin mAb(5B7)	H,R,M,Mk,Dg,Ch,Hm,Rb,Insect	IF,WB,IHC-p	42
		YM3121	β -actin mAb	Zebrafish	WB	42
		YM33038	Actin beta rabbit pAb	Drosophilidae	WB	42
		YM33033	Actin beta rabbit pAb	C.elegans	WB	42
		YM3034	Plant actin mAb(Q30)	Various Plants	WB	42
	GAPDH	YT5052	GAPDH pAb	H,M,R	WB,IHC-p,ELISA	36
		YM3029	GAPDH mAb(2B8)	H,R,M,Mk,Dg,Ch,Hm,Rb,Pig,Sh, Insect, Yeast	WB,IF,IHC-p	36
		YM33039	GAPDH rabbit pAb	Drosophilidae	WB	36
		YM33034	GAPDH rabbit pAb	C.elegans	WB	36
	beta-tubulin	YT4780	Tubulin β pAb	H,M,R,Pig,Cow	WB,IHC-p,IF,ELISA	50
		YM3139	β -tubulin mAb(Mix)	H,R,M,Mk,Dg,Ch,Hm, Rb	WB,IHC-p,IP	50
YM33036		Tubulin beta rabbit pAb	C.elegans	WB	50	
胞核	lamin B1	YT5180	Lamin B1 pAb	H,M,R	WB,IHC-p,ELISA	55
		YM3036	Lamin B1 mAb(7C11)	H,R,M	WB,IHC-p,IF,IP	55
	PCNA	YT3617	PCNA pAb	H,M,R,Mk	WB,IHC-p,ELISA	36
		YM3031	PCNA mAb(12D10)	H,R,M	WB,IF,IHC-p	36
	histone H3	YT2163	Histone H3 pAb	H,M,R	WB,IHC-p,IF,ELISA	15
		YM3038	Histone H3 mAb(1G1)	H,M,R,Yeast	WB,IHC-p,IF,IP	15
YM33037		Histone H3 rabbit pAb	H,M,R Cel. Yeast	WB,IP	15	
胞膜	Na ⁺ /K ⁺ -ATPase α 1	YT2971	Na ⁺ /K ⁺ -ATPase α 1 pAb	H,M,R	WB,ELISA	100
外泌体	CD9	YT0782	CD9 pAb	H,M,R	WB,IHC-p,IF,ELISA	25
	CD81	YT5394	CD81 pAb	H,M,R	IF,WB,ELISA	26
	CD63	YT5525	CD63 pAb	H	IF,WB,IHC-p,ELISA	26
自噬小体	ATG12	YT7272	ATG12 rabbit pAb	H, M,R	WB	15
	LC3B	YM3381	LC3B pAb	H,M,R	WB,IF,IHC-p	14,16
线粒体	COXIV	YT1074	COX4 pAb	H	WB,IHC-p,IF,ELISA	17
		YM3033	COX IV mAb(6C8)	H,R,M	WB,IHC-p,IF,	17
	VDAC1/Porin	YT5390	VDAC1 pAb	H,M,R	WB,ELISA	31
	ATP5A	YT0399	ATP5A pAb	H,M,R	WB,IHC-p,ELISA	60
	Tom20	YT4696	Tom20 pAb	H,M,R	WB,ELISA	17
内质网	Calregulin	YT0620	Calregulin pAb	H,M,R,Mk	WB,IHC-p,IF,ELISA	48
	Calnexin	YT0613	Calnexin pAb	H,M,R	WB,IHC-p,IF,ELISA	90
	Endoplasmin	YT1560	Endoplasmin pAb	H,M	WB,IHC-p,IF,ELISA	92
	ERp57/ERp60	YT5220	ERp57 pAb	H,M,R	WB,IHC-p,ELISA	55
高尔基体	GRASP55	YT2053	GRASP55 pAb	H,M,R	WB,IHC-p,ELISA	47
	GOLGA2/GM130	YT6291	GM130 pAb	H, M, R	WB, ELISA	130
中心体	CENPJ	YN1577	CENPJ pAb	H,M	WB,ELISA	147
内含体	RAB11B	YT3919	Rab 11B pAb	H,M,R	WB,ELISA	28

常用试剂

货号	中文名称	产品规格	目录价格	货期
RS0029	30% Acr-Bis(29:1)溶液	500ml	245	现货
RS0012	10% SDS溶液	500ml	400	现货
RS0013	1M Tris-HCl缓冲液, pH6.8	500ml	200	现货
RS0014	1.5M Tris-HCl缓冲液, pH8.8	500ml	200	现货
RS0015	SDS变性电泳上样缓冲液, 5X	2x1ml/10x1ml	40/300	现货
RS0025	SDS电泳缓冲液 (Tris-Gly), 10X	500ml	200	现货
D01-250	彩色预染marker(10-180kD)	250ul/250ul*2/250*10	360/720/3400	现货
RS0028	转移缓冲液 (Tris-Gly转膜液), 10X	500ml	200	现货
RS0021	丽春红S染色液, 1X	500ml	300	现货
RS0017	TBST洗涤缓冲液, pH7.5, 10X	500ml	120	现货
RS0018	PBST洗涤缓冲液, pH7.5, 10X	500ml	120	现货
RS0023	Tris缓冲盐溶液(TBS), pH7.4, 10X	500ml	120	现货
RS0032	PBS缓冲液 pH7.2-7.4 无Ca ²⁺ , Mg ²⁺ , 1X	500ml	95	现货
RS0033	PBS缓冲液 pH7.2-7.4 无Ca ²⁺ , Mg ²⁺ , 10X	500ml	120	现货
RS0022	一抗二抗去除液	500ml	400	现货
YS0002	抗原修复液柠檬酸50X, pH6.0	100mL/250mL	80/160	现货
YS0003	抗原修复液20X, EDTA pH8.0	100mL/250mL	60/120	现货
YS0004	抗原修复液20X, EDTA pH9.0	100mL/250mL	60/120	现货
YS0001	免疫组化抗体稀释液	50mL/100mL/500mL	300/500/2000	现货
YS0005	苏木素染色液	250mL	750	现货
RS0017L	TBST洗涤缓冲液, pH7.5, 10X	10x500mL	900	现货
RS0018L	PBST洗涤缓冲液, pH7.5, 10X	10x500mL	900	现货
RS0023L	Tris缓冲盐溶液(TBS), pH7.4, 10X	10x500mL	900	现货
RS0025L	SDS电泳缓冲液 (Tris-Gly), 10X	10x500mL	1500	现货
RS0028L	转移缓冲液 (Tris-Gly转膜液), 10X	10x500mL	1500	现货
RS0032L	PBS缓冲液 pH7.2-7.4 无Ca ²⁺ , Mg ²⁺ , 1X	10x500mL	700	现货
RS0033L	PBS缓冲液 pH7.2-7.4 无Ca ²⁺ , Mg ²⁺ , 10X	10x500mL	900	现货
RS0024	蛋白提取试剂盒	50Tests	1300	现货

常用二抗

货号	名称	规格	报价	货期
RS0011	Goat anti Rabbit/Mouse polymer HRP, Ready to Use	1mL/10mL/100mL	150/1000/7500	现货
RS0001	HRP* Goat Anti-Mouse IgG(H+L)	100ul/1mL	200/1200	现货
RS0002	HRP* Goat Anti-Rabbit IgG(H+L)	100ul/1mL	200/1200	现货
RS0003	FITC* Goat Anti-Mouse IgG(H+L)	100ul/1mL	200/1500	现货
RS0004	FITC* Goat Anti-Rabbit IgG(H+L)	100ul/1mL	200/1500	现货
RS23210	DyLight 488, Goat Anti-Mouse IgG	100ul/1mL	300/2400	现货
RS23220	DyLight 488, Goat Anti-Rabbit IgG	100ul/1mL	300/2400	现货
RS23610	DyLight 649, Goat Anti-Mouse IgG	100ul/1mL	300/2400	现货
RS23620	DyLight 649, Goat Anti-Rabbit IgG	100ul/1mL	300/2400	现货
RS23710	DyLight 680, Goat Anti-Mouse IgG	100ul/1mL	300/2400	现货
RS23720	DyLight 680, Goat Anti-Rabbit IgG	100ul/1mL	300/2400	现货
RS23910	DyLight 800, Goat Anti-Mouse IgG	100ul/1mL	300/2400	现货
RS23920	DyLight 800, Goat Anti-Rabbit IgG	100ul/1mL	300/2400	现货
RS3208	Alexa Fluor 488 Goat Anti-Mouse IgG (H&L)	100ul/1mL	450/2250	现货
RS3211	Alexa Fluor 488 Goat Anti-Rabbit IgG (H&L)	100ul/1mL	450/2250	现货
RS3808	Alexa Fluor 647 Goat Anti-Mouse IgG (H&L)	100ul/1mL	450/2250	现货
RS3811	Alexa Fluor 647 Goat Anti-Rabbit IgG (H&L)	100ul/1mL	450/2250	现货



发表文章

发表时间	应用Immunoway产品发表文章，精选部分文献如下：	货号	抗体名称
2018	Zhao, Yang, et al. "The lncRNA MACC1-AS1 promotes gastric cancer cell metabolic plasticity via AMPK/Lin28 mediated mRNA stability of MACC1." Molecular cancer	YP0575	AMPKα1/2 (phospho Thr183/172) pAb
2014	Zhang, Kai-liang, et al. "Blockage of a miR-21/EGFR regulatory feedback loop augments anti-EGFR therapy in glioblastomas." Cancer letters	YT0247	AP-1 pAb
2018	Hu, Yunhui, et al. "Sabutoclax, pan-active BCL-2 protein family antagonist, overcomes drug resistance and eliminates cancer stem cells in breast cancer." Cancer letters	YM3041	Bcl-2 mAb(6B5)
2018	Huang, Jin-lan, et al. "The long non-coding RNA PTTG3P promotes cell growth and metastasis via up-regulating PTTG1 and activating PI3K/AKT signaling in hepatocellular carcinoma." Molecular cancer	YC0026	Caspase-3 pAb
2014	Liu, Meifang, et al. "The use of antibody modified liposomes loaded with AMO-1 to deliver oligonucleotides to ischemic myocardium for arrhythmia therapy." Biomaterials	YT1046	Connexin 43 pAb
2017	ZHANG, Haiyang, et al. Exosome-delivered EGFR regulates liver microenvironment to promote gastric cancer liver metastasis. Nature communications	YT1326	Desmin pAb
2015	Wang, Dapeng, et al. "Hypermethylation of the Keap1 gene inactivates its function, promotes Nrf2 nuclear accumulation, and is involved in arsenite-induced Human keratinocyte transformation." Free Radical Biology and Medicine 89 (2015): 209-219.	YT1388	Dnmt3b pAb
2020	Q Zhou, et al. "PRL-3 facilitates Hepatocellular Carcinoma progression by co-amplifying with and activating FAK." Theranostics	YP0739	FAK (phospho Tyr397) pAb
2020	Xixi Zheng, et al. "Exosomes derived from 5-fluorouracil-resistant colon cancer cells are enriched in GDF15 and can promote angiogenesis." Journal of Cancer	YT1659	FAK pAb
2020	K Ma, et al. "Neuroprotective effect of Hongjing I granules on erectile dysfunction in a Rat model of bilateral cavernous nerve injury." Biomedicine & Pharmacotherapy	RS3511	Goat Anti Rabbit IgG (H&L) - Alexa Fluor 568
2015	LI, L., et al. Deacetylation of tumor-suppressor MST1 in Hippo pathway induces its degradation through HBXIP-elevated HDAC6 in promotion of breast cancer growth. Oncogene	YT2118	HDAC6 pAb
2020	TengPan, et al. "Centromere protein U (CENPU) enhances angiogenesis in triple-negative breast cancer by inhibiting ubiquitin-proteasomal degradation of COX-2." Cancer Letters	YT2133	HIF-1α pAb
2019	Zhang, JiaRui, et al. "Intracellular ion and protein nanoparticle-induced osmotic pressure modify astrocyte swelling and brain edema in response to glutamate stimuli." Redox Biology	RS0001	HRP* Goat Anti Mouse IgG(H+L)
2020	Zhaozhao Si, et al. "Gold nanorods-based multicolor immunosensor for visual detection of enterovirus 71 infection." Microchimica Acta	RS030238	HRP* Polyclonal Goat Anti Human IgM(u chain)
2019	Zhang, Huiyun, et al. "Role of IL - 18 in atopic asthma is determined by balance of IL - 18/IL - 18BP/IL - 18R." Journal of cellular and molecular medicine	KE1140	IL-18 BPa ELISA Kit
2019	Yu, Xinfeng, et al. "CXCL12/CXCR4 promotes inflammation-driven colorectal cancer progression through activation of RhoA signaling by sponging miR-133a-3p." Journal of Experimental & Clinical Cancer Research	KE1372	Human TNF-α(Tumor Necrosis Factor Alpha) ELISA Kit
2019	Chuangxin Lin, et al."Activation of mTORC1 in subchondral bone preosteoblasts promotes osteoarthritis by stimulating bone sclerosis and secretion of CXCL12". Bone Research	YM3064	Ki 67 mAb(4A8)
2015	Liu, Xing, et al. "TTK activates Akt and promotes proliferation and migration of hepatocellular carcinoma cells." Oncotarget	YT2690	Mdm2 pAb
2018	Chen, Jie, et al. "KLHL22 activates amino-acid-dependent mTORC1 signalling to promote tumorigenesis and ageing." Nature	YM3203	Myc-Tag pAb
2015	Zhang, Yuqiang, et al. "Mst3b promotes spinal cord neuronal regeneration by promoting growth cone branching out in spinal cord injury rats." Molecular neurobiology	YT2960	N/H/K-Ras pAb
2016	KIVELÄ, Riikka, et al. The transcription factor Prox1 is essential for satellite cell differentiation and muscle fibre-type regulation. Nature communications	YT5381	NFATc1 pAb
2016	Hu, Wen, et al. "Chronic glucocorticoids exposure enhances neurodegeneration in the frontal cortex and hippocampus via NLRP-1 inflammasome activation in male mice." Brain, behavior, and immunity	YM3111	NFκB p65 mAb(5G6)
2014	Li, Yinghui, et al. "The oncoprotein HBXIP enhances migration of breast cancer cells through increasing filopodia formation involving MEKK2/ERK1/2/Capn4 signaling." Cancer letters	YT3984	Raf-B pAb
2017	Chen, Yao, et al. "Activation of CD137 signaling accelerates vascular calcification in vivo and vitro." International journal of cardiology	YT5356	RUNX2 pAb
2018	Zhang, Hong, et al. "Therapeutic potential of bixin in PM2. 5 particles-induced lung injury in an Nrf2-dependent manner." Free Radical Biology and Medicine	YT4632	TGFβ1 pAb
2015	Liu, Fengchao, et al. "TGF-β1 acts through miR-155 to down-regulate TP53INP1 in promoting epithelial-mesenchymal transition and cancer stem cell phenotypes." Cancer letters	YT4879	Vimentin pAb
2019	Yang, Chun - He, et al. "Melatonin promotes secondary hair follicle development of early post - natal cashmere goat and improves cashmere quantity and quality by enhancing antioxidant capacity and suppressing apoptosis." Journal of pineal research	YM3028	β-actin mAb(5B7)



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