

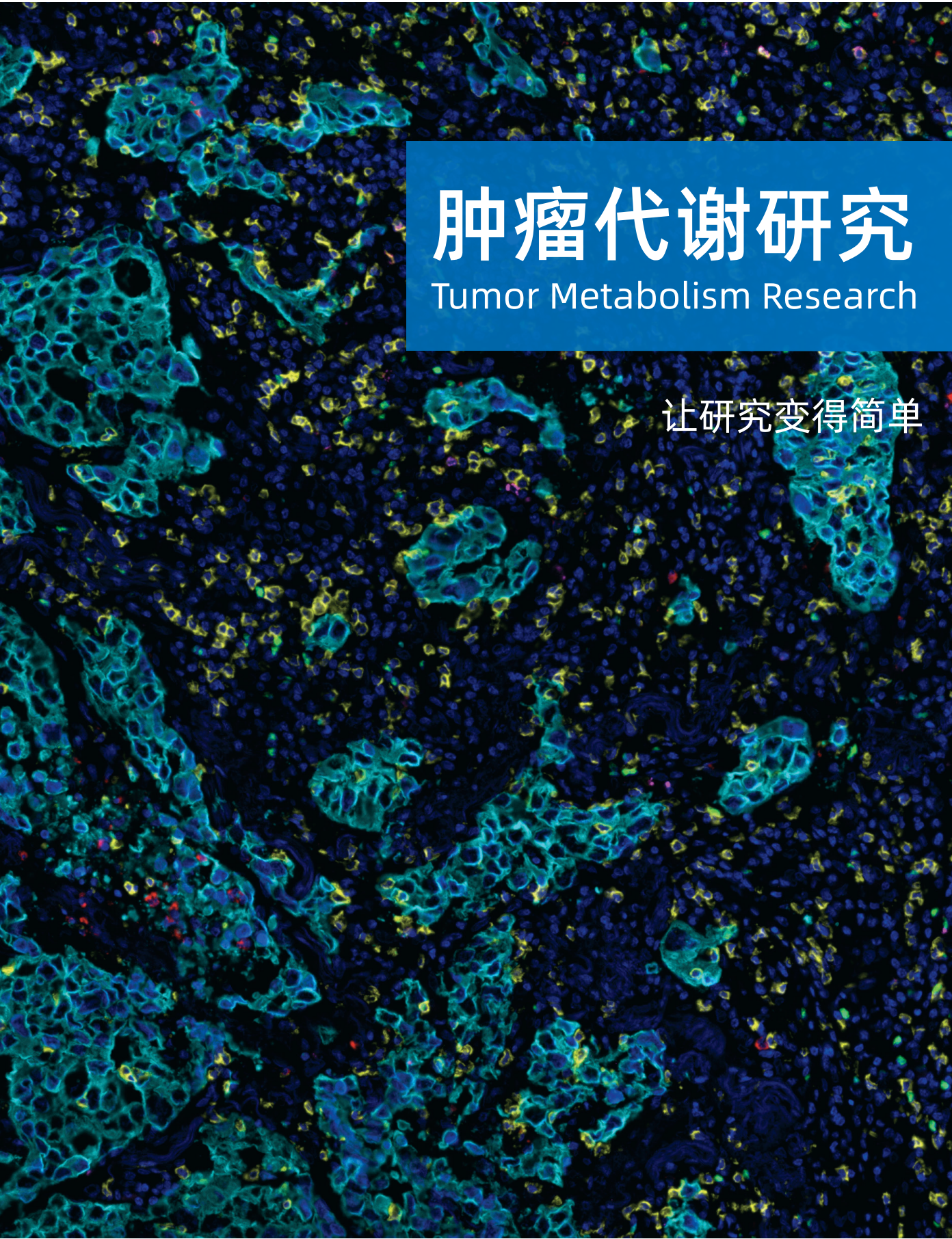


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杭州华安生物技术有限公司

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肿瘤代谢研究

Tumor Metabolism Research

让研究变得简单

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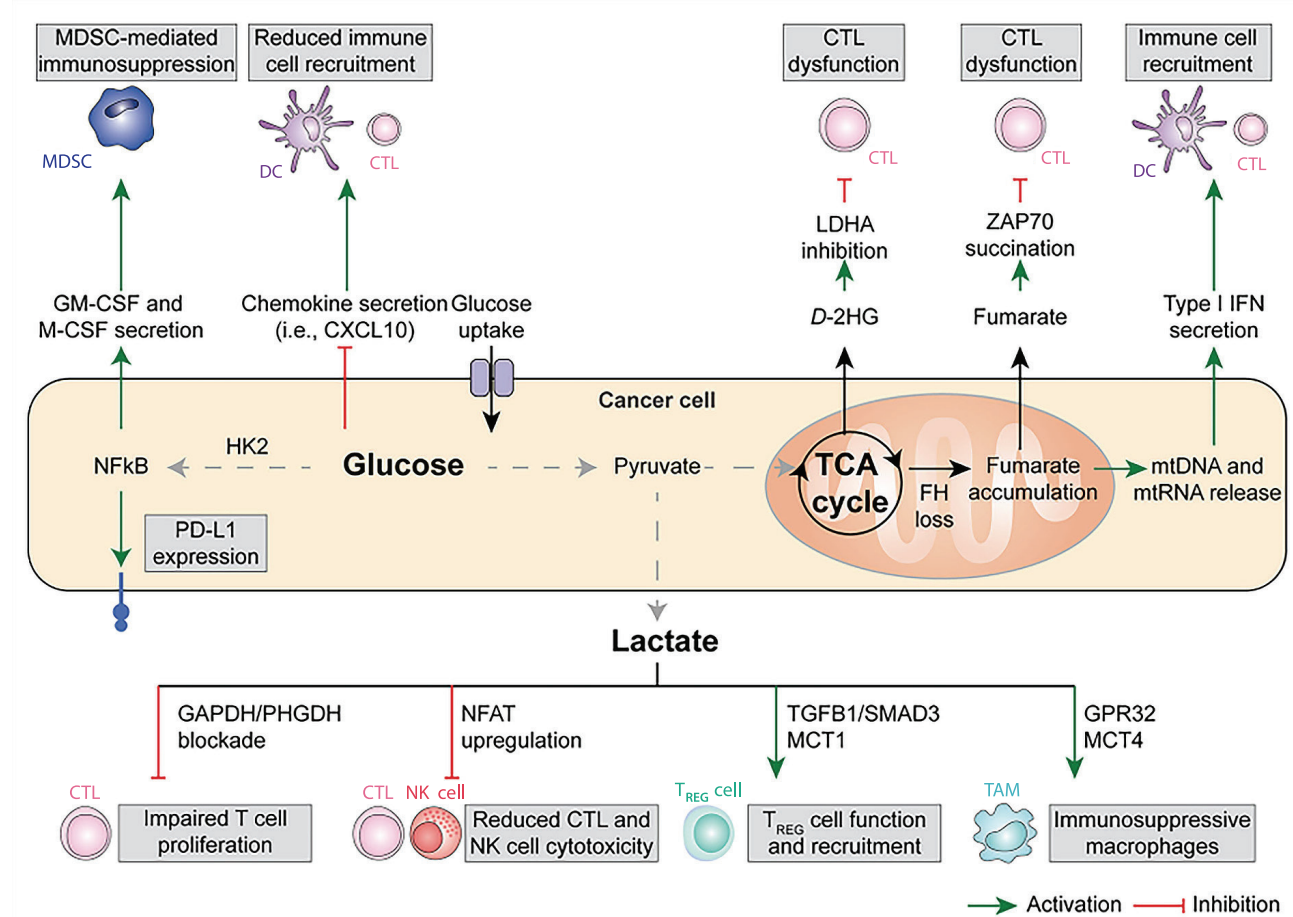
肿瘤代谢研究解决方案：精准靶向代谢重编程的关键通路

肿瘤代谢重编程是癌症的重要特征之一，涉及糖酵解、脂质代谢、氨基酸代谢和线粒体功能等多个方面的异常调控。作为全球领先的抗体和工业原料供应商，华安生物（HUABIO）提供了一系列高质量、经过严格验证的抗体和检测试剂盒，助力肿瘤代谢机制研究及药物开发。

肿瘤代谢核心通路及关键研究靶标

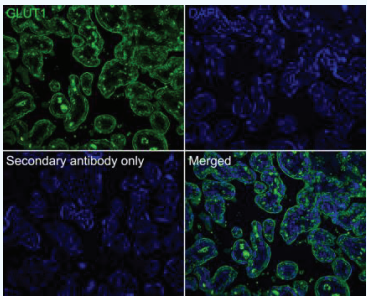
糖酵解（Warburg效应）

肿瘤细胞即使在氧气充足条件下仍优先依赖糖酵解产生ATP，这一现象称为Warburg效应。糖酵解增强促进乳酸积累，酸化肿瘤微环境（TME），抑制免疫细胞（如CD8+ T细胞）功能，促进免疫逃逸。

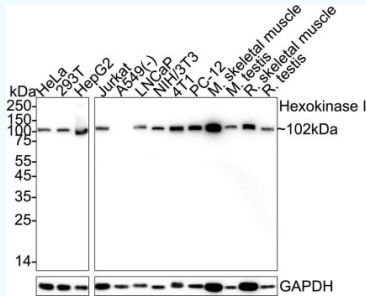


糖代谢及其代谢产物在肿瘤代谢过程中的调控作用（PMID: 38649722）

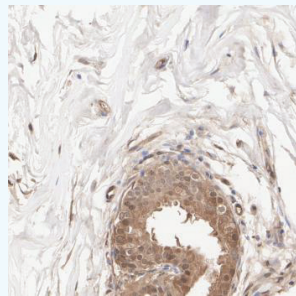
关键靶标	在肿瘤代谢中的作用
GLUT1/3	介导肿瘤细胞葡萄糖摄取，GLUT1高表达与ccRCC（肾透明细胞癌）免疫逃逸相关
HK2	催化葡萄糖磷酸化，抑制线粒体凋亡，促进肿瘤存活
LDHA	催化丙酮酸→乳酸，促进TME酸化，抑制T细胞功能
PKM2	调控糖酵解通量，影响肿瘤增殖与转移



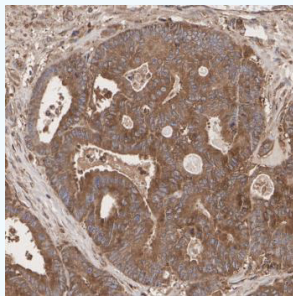
使用GLUT1重组兔单抗（Catalog# ET1601-10）对人胎盘组织进行 IF-tissue 分析。



使用Hexokinase II重组兔单抗（Catalog# HA723033）对不同类型的样本裂解液进行 WB 分析。



使用LDHA/B重组兔单抗（Catalog# HA723486）对人乳腺癌组织进行 IHC-P 分析。

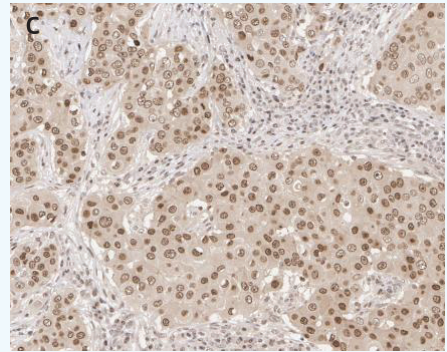
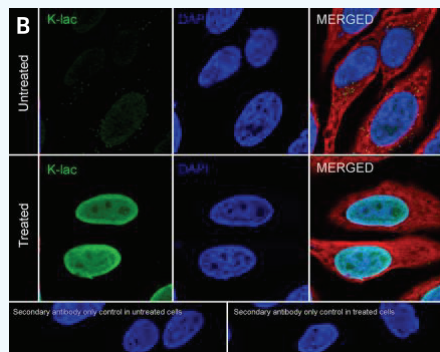
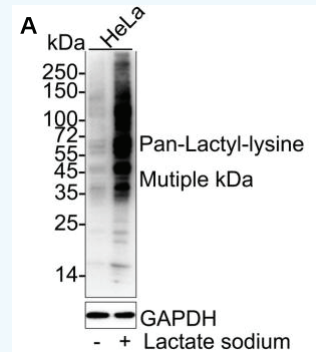


使用PKM2重组兔单抗（Catalog# HA723370）对人结肠癌组织进行 IHC-P 分析。

乳酸代谢作为肿瘤代谢重编程的核心环节，近年来已成为癌症研究的重要领域。最新研究表明，乳酸已被确认为一种多功能信号分子，通过多种蛋白修饰机制支持肿瘤的能量和生物合成需求。其中，乳酸化修饰广泛存在组蛋白及多种非组蛋白上，形成了复杂的调控网络，在肿瘤发生发展中发挥关键作用。

明星乳酸化修饰抗体推荐

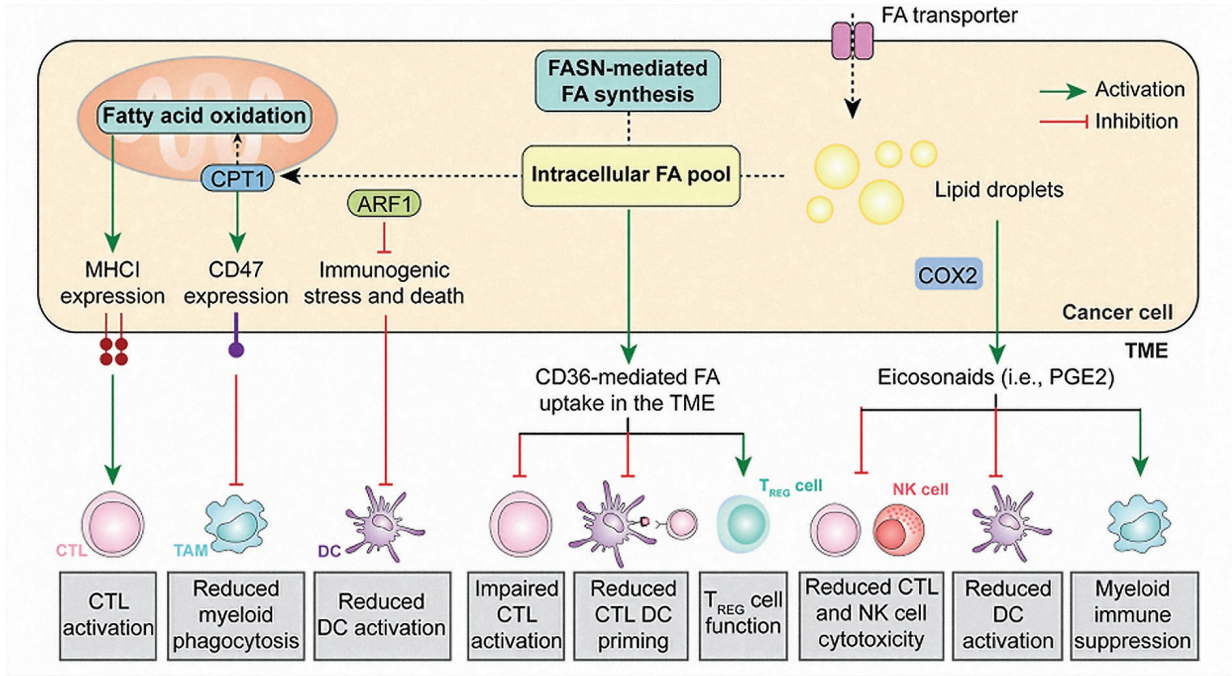
Product name	Catalog#	Reactivity	Tested applications	Antibody type
Pan-Lactyl-lysine	HA722037	Species independent	WB,IHC-P,IF-Cell,FC,Dot Blot	Rabbit mAb
Pan-Lactyl-lysine	HA722038	Species independent	WB,IHC-P,IF-Cell,FC,Dot Blot	Rabbit mAb



使用lysine泛乳酸化修饰重组兔单抗（Catalog# HA722038）对Lactate sodium处理的HeLa细胞裂解液进行 WB 分析（图A）和 IF-Cell 分析（图B），以及对人乳腺癌组织进行 IHC-P 分析（图C）。

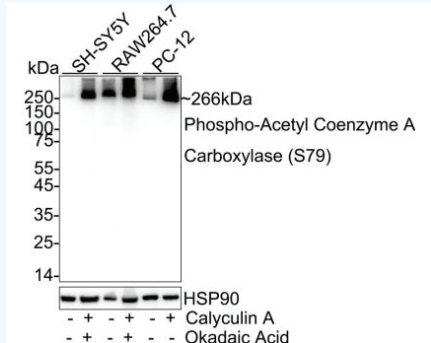
脂质代谢

肿瘤细胞依赖脂肪酸合成（FAS）和氧化（FAO）维持膜结构、信号分子（如前列腺素）和能量供应。其中，脂滴积累与肿瘤侵袭相关；脂代谢产生的脂肪酸影响免疫微环境，如前列腺素E2（PGE2）促进免疫抑制性TAMs（肿瘤相关巨噬细胞）极化。

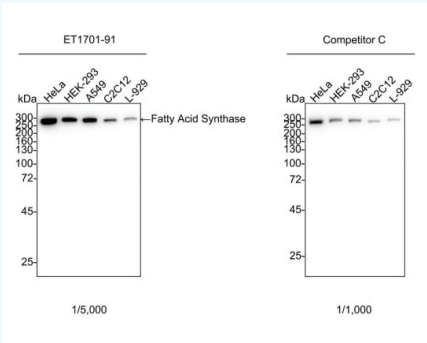


脂肪酸及类花生酸在肿瘤代谢过程中的调控作用（PMID: 38649722）

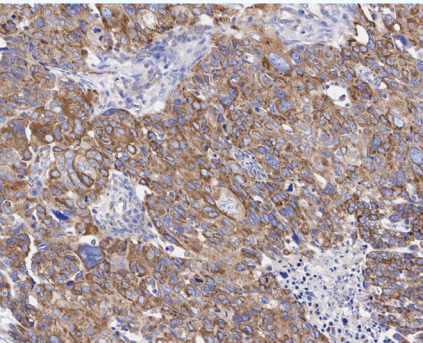
关键靶标	在肿瘤代谢中的作用
ACC	催化脂肪酸合成限速步骤，受AMPK调控
FASN	在透明细胞肾细胞癌（ccRCC）中高表达，与不良预后相关
SCD1	促进饱和脂肪酸合成，维持ER（内质网）稳态
CPT1A	调控脂肪酸β-氧化，影响肿瘤能量供应



使用Phospho-Acetyl Coenzyme A Carboxylase (S79) 重组兔单抗 (Catalog# HA722801) 对不同给药处理的样本裂解液进行 WB 分析。



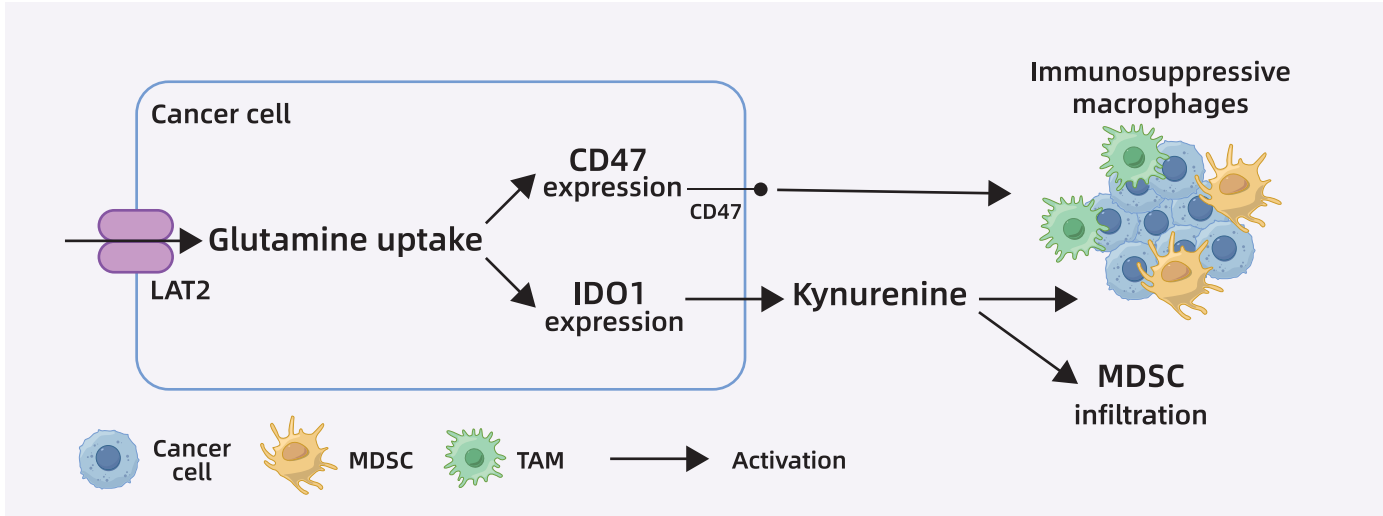
使用Fatty Acid Synthase重组兔单抗 (Catalog# ET1701-91, 1/5,000稀释比) 和竞品C (1/1,000稀释比) 对不同类型的样本裂解液进行 WB 分析。



使用CPT1A重组兔单抗 (Catalog# HA722081) 对人卵巢癌组织进行 IHC-P 分析。

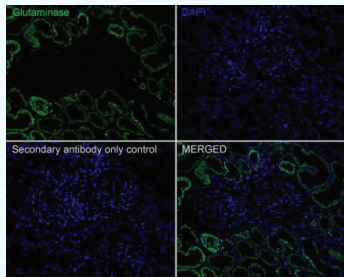
谷氨酰胺代谢

谷氨酰胺是肿瘤细胞的主要氮源和碳源，补充TCA循环（通过α-酮戊二酸），支持核苷酸和氨基酸合成，可以促进肿瘤转移。此外，代谢产物谷胱甘肽（GSH）可以维持氧化还原平衡，抵抗ROS损伤。

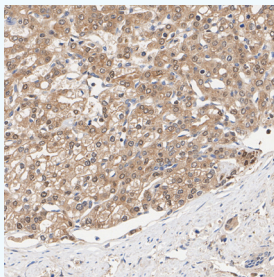


谷氨酰胺在肿瘤代谢过程中的调控作用

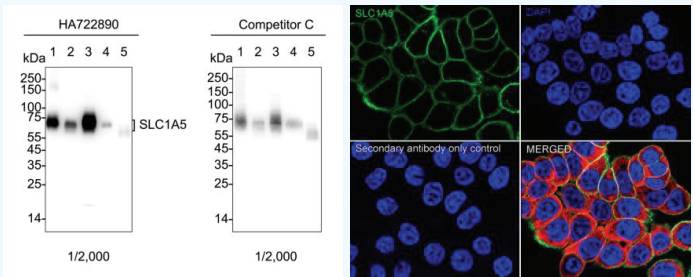
关键靶标	在肿瘤代谢中的作用
GLS1	在多种癌症（如CRC、乳腺癌）中高表达，促进肿瘤进展
SLC1A5	介导谷氨酰胺摄取，抑制ASCT2可抑制肿瘤生长
GDH	催化谷氨酸代谢生成α-酮戊二酸，影响TCA循环回补
IDH1/2	突变导致2-HG积累，表观遗传调控肿瘤发生（如胶质瘤）



使用Glutaminase重组兔单抗 (Catalog# ET1611-5) 对人肾脏组织进行 IF-tissue 分析。



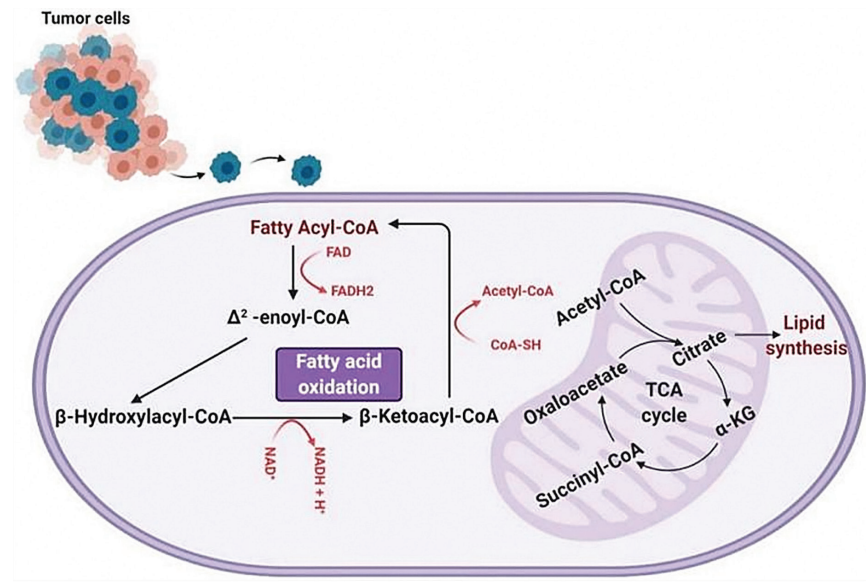
使用IDH1重组兔单抗 (Catalog# HA722696) 对人前列腺癌组织进行 IHC-P 分析。



使用SLC1A5重组兔单抗 (Catalog# HA722890, 绿色) 和竞品C在稀释比1/2,000条件下，对不同类型的样本裂解液进行 WB 分析（左图）以及对HT-29细胞进行 IF-Cell 分析（1/500稀释比，右图）。肌动蛋白丝用Beta tubulin (M1305-2, 红色) 标记。

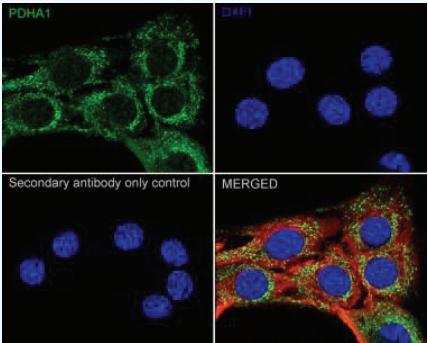
TCA循环与线粒体代谢

TCA循环为肿瘤提供ATP、NADH和生物合成前体。其中，线粒体代谢在肿瘤代谢过程中发挥关键性调控作用，支持OXPHOS（氧化磷酸化），尤其在转移性肿瘤中作用显著。然而，线粒体代谢异常会导致致癌产物累积，影响HIF环境。

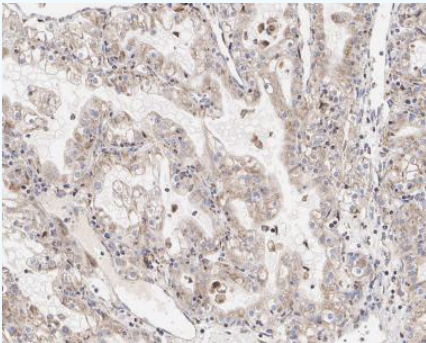


TCA循环与线粒体代谢在肿瘤代谢过程中的调控作用（PMID: 33500708）

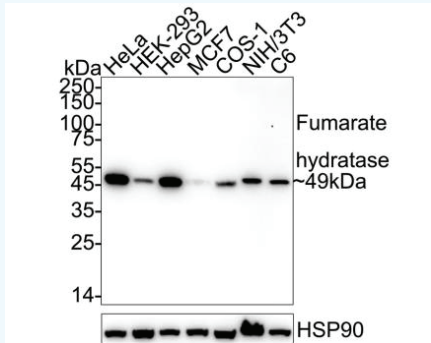
关键靶标	在肿瘤代谢中的作用
PDH	受PDK1抑制，减少丙酮酸进入TCA循环，促进糖酵解
IDH1/2	IDH1/2突变导致2-HG积累，影响表观遗传修饰（如胶质瘤、AML）
FH	FH突变导致富马酸积累，稳定HIF-1α，促进血管生成
ETC	如复合物I（二甲双胍靶点）和复合物III（影响DHODH活性）



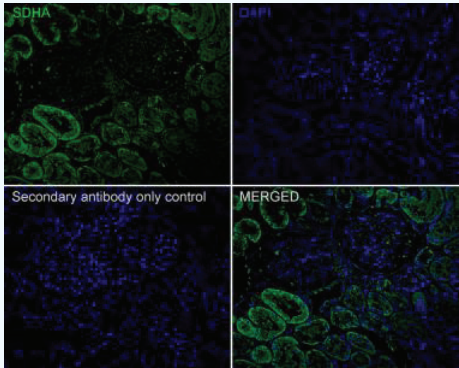
使用PDHA1重组兔单抗（Catalog# ET1702-75，绿色）对C2C12细胞进行 IF-Cell 分析。
肌动蛋白丝用Beta tubulin（HA601187，红色）标记。



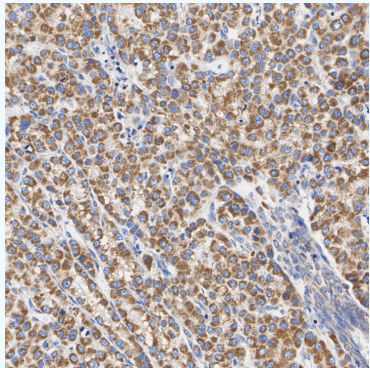
使用Phospho-PDHA1（S293）重组兔单抗（Catalog# HA721443）对人肾透明细胞癌组织进行 IHC-P 分析。



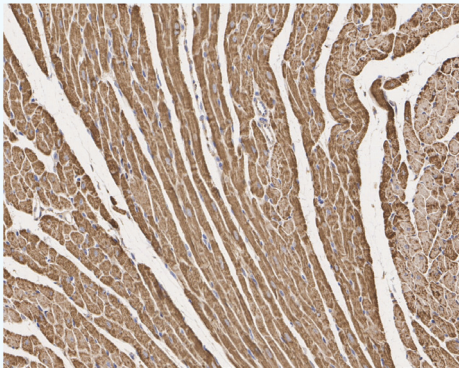
使用Fumarate hydratase重组兔单抗（Catalog# HA723032）对不同类型的样本裂解液进行 WB 分析。



使用SDHA重组兔单抗（Catalog#ET1703-40）对人肾脏组织进行 IF-tissue 分析。



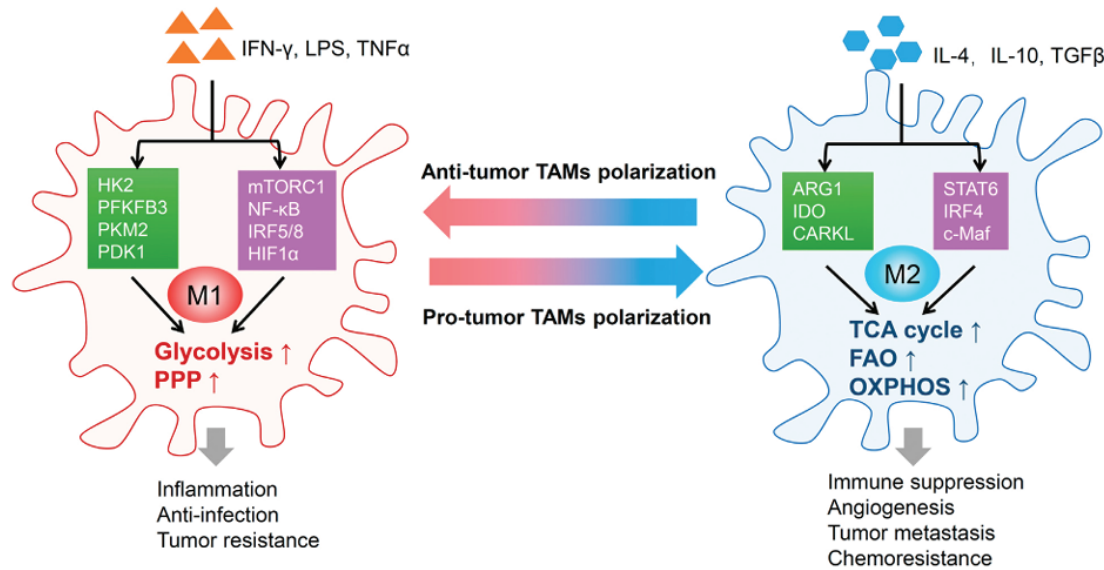
使用SDHB重组兔单抗（Catalog# HA722901）对人肝癌组织进行 IHC-P 分析。



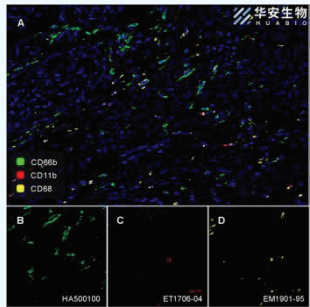
使用COX IV重组兔单抗（Catalog# ET1701-63）对大鼠心肌组织进行 IHC-P 分析。

肿瘤相关巨噬细胞（TAM）代谢重塑

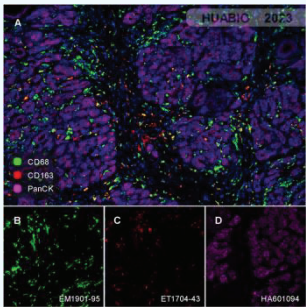
肿瘤相关巨噬细胞（TAMs）在肿瘤进展过程中扮演关键角色，其通过葡萄糖代谢途径调控多种细胞生物学过程，共同促进其向促肿瘤表型的极化。M1巨噬细胞通过上调糖酵解和磷酸戊糖途径以触发炎症，M2巨噬细胞依赖三羧酸循环和线粒体代谢，以抑制抗肿瘤免疫并促进肿瘤转移。因此，靶向干预TAMs的葡萄糖代谢途径以逆转其免疫抑制功能、重塑抗肿瘤免疫微环境，已成为肿瘤免疫治疗领域极具潜力的研究方向。



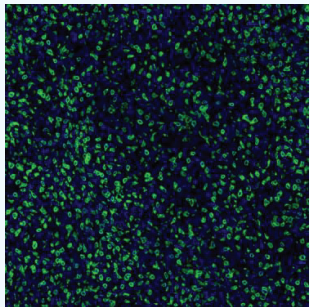
TAM代谢重塑在肿瘤代谢过程中的调控作用（PMID: 37080816）



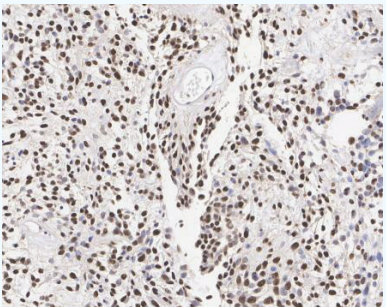
使用CD11b重组兔单抗（Catalog# ET1706-04，红色）对人宫颈癌样本进行 mIHC 分析。
anti-CD66b（HA500100，绿色），
anti-CD68（EM1901-95，黄色）。



使用CD163重组兔单抗（Catalog# ET1704-43，红色）对人胰腺癌样本进行 mIHC 分析。
anti-CD68（EM1901-95，绿色），
anti-PanCK（HA601094，紫色）。



使用CD206 mIHC抗体（Catalog# IR5049）对小鼠骨肉瘤组织进行 mIHC 分析。



使用STAT6 重组兔单抗（Catalog# ET1605-49）对人孤立性纤维肿瘤组织进行 IHC-P 分析。

巨噬细胞M1、M2极化鉴定 — 抗体小包装产品推荐

Mouse Reactive M1 vs M2 Macrophage Antibody Sampler Kit | HAK21096

Contains product	Quantity	Tested applications	Reactivity	MW(kDa)
F4/80 [HA721520]	20 ul	WB,IHC-P,IF-Tissue,IHC-Fr,mIHC	Ms,R	102 kDa
CD68 [HA722285]	20 ul	WB,IF-Cell,IHC-P,IHC-Fr,IF-Tissue	Ms,R	35 kDa
CD86 [ET1606-50]	20 ul	WB,IF-Cell,IP	H,Ms,R	38 kDa
CD11c [HA722830]	20 ul	WB,IHC-P,IHC-Fr,IF-Tissue	Ms	129 kDa
Mannose Receptor(CD206) [HA722892]	20 ul	WB,IHC-P,IF-Tissue,IHC-Fr,IF-Cell,IP,mIHC	Ms,R	165 kDa
Liver Arginase [HA723143]	20 ul	WB, IHC-P,IF-Tissue	H,Ms,R	35 kDa
Iba1 [ET1705-78]	20 ul	WB,IHC-P,FC,IP,IF-Cell,IF-Tissue,IHC-Fr,mIHC	H,Ms,R	17 kDa
HRP-Goat Anti-Rabbit IgG (H+L) [HA1001]	100 ul	WB,ELISA,IHC-P	Rb	

*H: Human; Ms: Mouse; R: Rat; Rb: Rabbit

文献引用案例精选

Case 1

标题：Photodynamic gel-bombs enhance tumor penetration and downstream synergistic therapies

PMID: 40102383

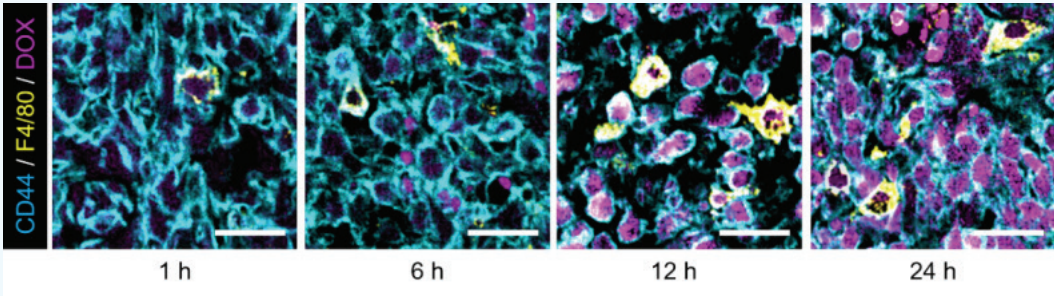
IF: 40.8

期刊：Signal Transduct Target Ther. 2025 Mar 19;10(1):94.

产品名称：F4/80 Rat mAb | RT1212

应用：IF

科研单位：南方医科大学



The intratumoral distribution of DCM@OPR after intravenous administration in 4T1-bearing mice at different times. 4T1 cells marked with CD44 antibody (cyan), macrophages with F4/80 antibody (yellow) and DCM@OPR marked with DOX (purple). Scale bars: 20 μm.

Case 2

标题：SHP-1 inhibition targets leukaemia stem cells to restore immunosurveillance and enhance chemosensitivity by metabolic reprogramming

PMID: 38321204

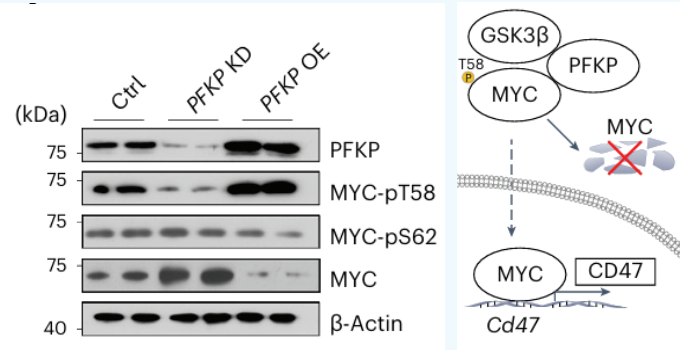
IF: 21.3

期刊：Nat Cell Biol. 2024 Mar;26(3):464-477.

产品名称：Phospho-c-Myc (S62) rabbit mAb | ET1609-64

应用：WB

科研单位：中山大学



Western blot analysis of the indicated proteins in THP-1 cells with PFKP knockdown or overexpression.

Case 3

标题：Astrocytic LRP1 enables mitochondria transfer to neurons and mitigates brain ischemic stroke by suppressing ARF1 lactylation

PMID: 38906140

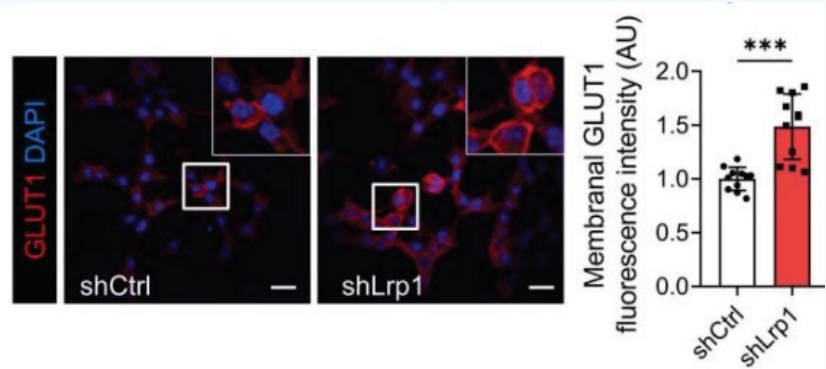
IF: 27.7

期刊：Cell Metab. 2024 Sep 3;36(9):2054-2068.e14.

产品名称：GLUT1 rabbit mAb | ET1601-10

应用：IF-Cell

科研单位：西南医科大学



Immunofluorescence localization and quantification of GLUT1 in control and Lrp1-depleted astrocytes. Nuclei were counterstained with DAPI. Scale bar, 20 μm.

Product name	Catalog#	Reactivity	Tested applications	Antibody type
Acetyl CoA Carboxylase 1 (ACC1)	ET1609-77	H,Ms,R	WB,IHC-P	Rabbit mAb
Phospho-Acetyl Coenzyme A Carboxylase (S79)	HA722801	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit mAb
Aldolase	ET1705-91	H,Ms,R,Z	WB,IHC-P,IF-Tissue	Rabbit mAb
Aldolase A/B/C	HA721733	H,Ms,R,Cmk,P	WB,IHC-P,IHC-Fr,IF-Tissue,IF-Cell	Rabbit mAb
Aldolase C	HA721734	Ms,R,H	WB,IHC-P	Rabbit mAb
ALK-1	HA722529	H,Ms,R	WB,IHC-P	Rabbit mAb
alpha 1 Antitrypsin	ET1702-87	H	WB,IF-Cell,IF-Tissue,IHC-P,IP	Rabbit mAb
Alpha B Crystallin	ET1704-60	H,R	WB,IHC-P,IF-Cell,IF-Tissue,IP,FC	Rabbit mAb
AMACR	EM1701-80	H,Ms,R	WB	Mouse mAb
Angiopoietin 1	ET1611-28	H,Ms,R	WB	Rabbit mAb
Angiotensinogen	ET1612-48	H	WB,IF-Cell,IF-Tissue,IP	Rabbit mAb
ANGPTL4	HA722823	H,Mk	WB	Rabbit mAb
Apolipoprotein A1	ET1702-23	H	WB,IF-Cell,IF-Tissue,IHC-P,IP	Rabbit mAb
Apolipoprotein E	HA601391	Ms,R	IHC-Fr,IHC-P,WB	Rat mAb
Aromatase	ET1703-77	H,R	WB,IP	Rabbit mAb
Aspartate Aminotransferase	EM1901-50	H,Ms,R	WB,IHC-P,FC	Mouse mAb
ATP citrate lyase	ET1609-37	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC,IP	Rabbit mAb
Calmodulin	ET1606-46	H,Ms,D,R	WB,IF-Cell,IF-Tissue,IHC-P,IP	Rabbit mAb
Calpain 2	ET1704-90	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
CaMKII	ET1608-47	H,Ms,R,Cmk,P	WB,IF-Cell,IF-Tissue,IHC-P,IHC-Fr,FC	Rabbit mAb
Phospho-CaMKII (T286)	HA721794	H,Ms,R	WB	Rabbit mAb
CaMKII alpha	ET1703-54	H,Ms,R,Cmk,P	WB,IHC-P,IF-Tissue,IHC-Fr,IF-Cell,FC,IP	Rabbit mAb
CaMKII delta	ET1704-37	H,Ms,R,Z	WB,IHC-P	Rabbit mAb
Carbonic anhydrase 9	ET1701-51	H	WB,IHC-P,IF-Tissue,mIHC	Rabbit mAb
CARM1	HA722224	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
Catalase	ET1703-31	H,Ms,R,Z	WB,IHC-P,IF-Cell	Rabbit mAb
Caveolin-1	ET1603-1	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P	Rabbit mAb
CBS	ET7109-21	H	WB,IF-Cell	Rabbit mAb
CCL2	HA500267	Ms,H	WB,FC	Rabbit pAb
CCS	HA723112	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
CD36	ET1701-24	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC,IP	Rabbit mAb
CETP	HA722752	H,Ms,R	WB,IHC-P	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
COX IV	ET1701-63	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP,FC	Rabbit mAb
COX1/Cyclooxygenase 1	ET1610-98	H,Ms,R	WB,IF-Cell,IHC-P,FC,IP	Rabbit mAb
COX2/Cyclooxygenase 2	ET1610-23	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P	Rabbit mAb
COX5B	HA500163	H,R	WB,IHC-P	Rabbit pAb
COX6B1	HA722407	H	WB,IHC-P,IF-Tissue	Rabbit mAb
CPT1A	HA722081	H,Ms	WB,IHC-P,IP	Rabbit mAb
CPT2	ET1611-64	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
Creatine kinase B type	ET7107-52	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
CREBBP	HA500056	H,Ms,R	WB,IHC-P	Rabbit pAb
CRYAA	HA722306	Ms,R	WB	Rabbit mAb
Cubilin	ET7107-88	H	WB,IHC-P	Rabbit mAb
CYP11A1	HA722814	H,Ms,R	WB	Rabbit mAb
CYP17A1	ET7107-61	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
CYP1A2	HA721495	H	WB,IF-Cell,FC	Rabbit mAb
CYP27A1	ET7109-05	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
CYP4A11	HA722348	H,Ms,R	WB,IHC-P	Rabbit mAb
CYP7A1	HA500207	H,R	WB,IF-Cell,FC	Rabbit pAb
Cytochrome C	ET1610-60	H,Ms,R	WB,IF-Tissue,IHC-P,IP,IF-Cell	Rabbit mAb
DDIT4	HA722161	H	WB	Rabbit mAb
DGAT1	HA721555	H	WB,IHC-P	Rabbit mAb
DOPA Decarboxylase	ET1704-94	H,Ms,R	WB,IHC-P	Rabbit mAb
Dopamine beta Hydroxylase	HA722558	H	WB	Rabbit mAb
DPP4	HA723473	H	WB,IHC-P,IF-Cell,FC,IP	Rabbit mAb
EPHX2	HA721056	H	WB	Rabbit mAb
EPO	HA722821	H	WB	Rabbit mAb
Fatty Acid Synthase	ET1701-91	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP,FC	Rabbit mAb
FBP1	ET7109-82	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit mAb
FDFT1	HA720048	H,Ms,R	WB,IHC-P,IF-Cell	Rabbit mAb
FGF21	ET1704-04	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
Fumarate hydratase	HA723032	H,Ms,R	WB,IHC-P,IF-Cell,FC	Rabbit mAb
GALT	HA721092	H,Ms,R	WB,IHC-P	Rabbit mAb
GALT	HA721875	H,Ms,R	WB,IF-Cell,FC	Rabbit mAb
GBA	ET1703-32	H,Ms,R,Cmk,P	WB,IHC-P	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
Glucagon	ET1702-20	H,Ms,R	WB,IHC-P,mIHC,IHC-Fr,IF-Tissue	Rabbit mAb
Glucokinase	HA722204	H	WB	Rabbit mAb
Glucose 6 Phosphate Dehydrogenase	ET1704-39	H	WB,IF-Cell,IHC-P,FC	Rabbit mAb
Glucose 6 phosphate isomerase	ET7108-01	H	WB,IHC-P,FC,IF-Cell,IF-Tissue	Rabbit mAb
Glucose Transporter GLUT1	ET1601-10	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
Glucose Transporter GLUT3	ET1704-59	H,Ms,R	WB,FC	Rabbit mAb
Glutaminase	ET1611-5	H,R,Ms	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
Glutathione Peroxidase 1	ET1701-84	H,Ms,R	WB,IP	Rabbit mAb
Glutathione Peroxidase 1	ET1702-09	H,Ms	WB,IF-Tissue,IHC-P	Rabbit mAb
Glycerol Kinase	ET7110-96	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
Phospho-Glycogen synthase 1 (S641)	ET1602-13	H,Ms,R	WB,IF-Cell,IHC-P,IP	Rabbit mAb
Glycogen synthase 1 / GYS1	ET1611-59	H,Ms,R	WB,IF-Tissue,IHC-P,IP	Rabbit mAb
GNAS	HA601075	H,Ms,R	WB,IHC-P,IF-Cell	Mouse mAb
GNB1	HA500392	H,Ms,R	WB,IHC-P,IF-Cell	Rabbit pAb
GNB3	HA500127	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit pAb
GOT1	HA601279	H,Ms,R	WB	Mouse mAb
GOT2	ET7110-71	H,Ms,R,Z	WB,IHC-P,FC	Rabbit mAb
GPD2	HA721311	H	WB,FC	Rabbit mAb
GPX4	ET1706-45	H,Ms,R,Z,P,Cmk	WB,IHC-P,IF-Cell,FC	Rabbit mAb
GRIM19	ET7108-66	H	WB,IHC-P,IF-Cell	Rabbit mAb
GRP94	M1701-12	H,Ms,R	WB,IHC-P	Mouse mAb
Phospho-GSK3 beta (S9)	ET1607-60	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
GSK3 beta	ET1607-71	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC,IHC-Fr	Rabbit mAb
GTPase HRAS	HA721355	H,Ms,R	WB,IHC-P	Rabbit mAb
HADHA	HA721652	H,Ms,R,Mk	WB,IHC-P,IF-Cell	Rabbit mAb
HADH	HA601203	H,Ms,R	WB,IF-Cell,IHC-P	Mouse mAb
hCG beta	HA721437	H	IHC-P	Rabbit mAb
HDAC3	ET1610-5	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP	Rabbit mAb
Heme Oxygenase 1 (HO-1)	ET1604-45	H	WB,IHC-P,IP,FC,IF-Tissue	Rabbit mAb
Hexokinase II	HA500186	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit pAb
HIF-1 alpha	HA721997	H,Ms,R	WB,IF-Cell	Rabbit mAb
HIF-1 beta	ET1609-67	H,Ms,R	WB,IHC-P	Rabbit mAb
HIF-2 alpha	ET7107-32	H,Ms,R	WB,IHC-P,FC,IF-Cell	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
HMGCR	ET1702-41	H,Ms,R	WB,IP,IHC-P	Rabbit mAb
HMGCS1	HA722998	H,Ms,R	WB,IHC-P,IF-Tissue,IP	Rabbit mAb
HMGCS2	HA720083	H,Ms,R	WB,IHC-P,IF-Cell	Rabbit mAb
HNF-4-alpha	ET1611-43	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
HNF-4-alpha	IRS055	Ms	mIHC	Rabbit mAb
Phospho-Hormone sensitive lipase (S853)	ET1611-19	H,Ms,R	WB,IHC-P	Rabbit mAb
Hormone sensitive lipase / HSL	HA722810	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
HSD11B1	ET1706-27	H,Ms,R	WB,IHC-P	Rabbit mAb
HSD3B1	HA500082	H	WB,IF-Cell,IHC-P	Rabbit pAb
IDH1	EM40705	H,Ms,R,Mk,Z	WB,IHC-P	Mouse mAb
IDH2	ET1704-93	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
Integrin alpha 2	ET1611-57	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC,IP	Rabbit mAb
IP3 Receptor	ET1704-77	H,Ms,R	WB,IHC-P,IHC-Fr,IF-Tissue	Rabbit mAb
KCNAS / KV1-5	HA723455	H,Ms,R	WB	Rabbit mAb
ketohexokinase	HA721949	H,Ms	WB,IF-Cell,IHC-P,FC	Rabbit mAb
KRAS	HA601059	H,Ms,R	WB,IF-Cell,IHC-P,FC	Mouse mAb
Lactate Dehydrogenase	ET1608-57	H,Ms,R,Z	WB,IF-Cell,IF-Tissue,IHC-P,FC,IP	Rabbit mAb
Lamin B Receptor / LBR	HA721912	H	WB,IHC-P,IF-Cell,FC	Rabbit mAb
LASS2	M1006-6	H,Z	WB,IF-Cell,IHC-P	Mouse mAb
LCAT	HA722868	Ms,R	WB,IHC-P	Rabbit mAb
LDHA	M1007-7	H,Ms	IHC-P	Mouse mAb
LDHA + LDHB	HA723486	H,Ms,R	WB,IHC-P,IF-Cell,FC,IP	Rabbit mAb
LDL Receptor	ET1606-47	H,R	WB,IF-Cell,FC	Rabbit mAb
Legumain	HA721645	H,Ms,R	WB,IHC-P	Rabbit mAb
Leptin Receptor	ET1704-44	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
LIMPII	HA721967	H,Ms,R,Mk	WB,IHC-P,IF-Cell	Rabbit mAb
Lipoamide Dehydrogenase	HA721512	H,Ms	WB,IHC-P,IF-Cell	Rabbit mAb
Lipoprotein lipase	ET1704-48	H	WB,IHC-P	Rabbit mAb
LKB1	HA723087	H,Ms,R,Mk	WB,IHC-P,IP	Rabbit mAb
Lrp2 / Megalin	HA722151	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
Lrp2 / Megalin	HA721910	H	IHC-P,IF-Tissue,WB	Rabbit mAb
LSS	HA500011	H,Ms	WB,IHC-P	Rabbit pAb
LTA4H	ET7110-13	H,Ms,R	WB,IHC-P,FC	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
LXR alpha	ET1704-51	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
LXR beta	HA721403	H,Ms,R	WB,IF-Cell	Rabbit mAb
MCT1	HA500190	H	WB,IF-Cell,IHC-P,FC	Rabbit pAb
MDH1	HA722196	H,Ms,R	WB,IF-Cell,FC	Rabbit mAb
ME2	HA500022	H,Ms,R	WB,IHC-P	Rabbit pAb
MLD	HA721830	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
MRas	HA722579	H,Ms,R	WB	Rabbit mAb
MRP1	ET1704-56	H	WB,IHC-P,FC,IF-Cell	Rabbit mAb
mSin3A	ET1704-91	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
MTCO1	HA722838	H,Ms,R	WB,IF-Cell,IHC-P,FC,IF-Tissue	Rabbit mAb
MTCO2	ET1610-72	H	WB,IF-Cell,IF-Tissue,IHC-P	Rabbit mAb
MT-ND1	HA721595	H,Ms,R	WB	Rabbit mAb
Munc18-1	HA722250	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
MVD	HA500275	H,Ms,R	WB,IHC-P	Rabbit pAb
MVK	HA601151	H,Ms,R	WB,IHC-P,IF-Cell	Mouse mAb
Myeloperoxidase	ET1703-21	H	WB,IF-Tissue,IHC-P	Rabbit mAb
Myeloperoxidase	HA601249	H,Ms,R	WB,IHC-P,IF-Cell,IF-Tissue	Mouse mAb
Myoglobin	ET1610-56	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP	Rabbit mAb
NDUFA1	HA722436	H	WB,IHC-P	Rabbit mAb
NDUFAB1	HA720088	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
NDUFS2	HA721968	H,Ms,R	WB,IF-Cell,IHC-P,FC,IP	Rabbit mAb
NDUFS3	ET1706-07	H	WB,IHC-P,IF-Cell,IF-Tissue,IP	Rabbit mAb
Ndufs4	ET7109-37	H,Ms,R,Z	WB,IP,IHC-P,FC	Rabbit mAb
NDUFV2	HA721869	H,Ms,R	WB,IHC-P,IF-Cell	Rabbit mAb
NFAT1	ET1704-14	H	WB,IF-Tissue,IHC-P	Rabbit mAb
NOX2 / gp91phox	HA723224	H,Ms,R	WB,IF-Cell,IHC-P,IHC-Fr,IP	Rabbit mAb
NOXA2	ET7108-72	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
NSDHL	HA721813	H,Ms,R	WB,IHC-P,IF-Cell,FC	Rabbit mAb
NSE	ET1610-96	H,Ms,R,Z	WB,IF-Cell,IHC-P	Rabbit mAb
Nuclear Receptor Corepressor	HA600055	H,Ms,R	WB,IHC-P	Mouse mAb
Pancreatic triacylglycerol lipase	HA500257	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit pAb
PCB	HA721698	H,Ms,R	WB,IHC-P,IF-Cell,FC,IP	Rabbit mAb
PCK1	ET7106-81	H	IF-Cell,IHC-P,WB	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
PCK2	ET7107-29	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
PDGF B	HA722003	H,Ms,R	WB,IHC-P	Rabbit mAb
PDHA1	ET1702-75	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP,FC	Rabbit mAb
Phospho-PDHA1 (S293)	HA721443	H,Ms,R	WB,ICC,IHC-P	Rabbit mAb
PDHB	ET1705-57	H,Ms,R	WB,IHC-P,FC,IP	Rabbit mAb
PDIA2	ET1702-70	H,Ms	WB	Rabbit mAb
PDK1	ET1704-66	H,Ms,R	WB,IHC-P,IP,FC,IF-Cell,IF-Tissue	Rabbit mAb
PDK2	ET7107-46	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
PDLIM1	ET7110-99	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
PEMT	HA500557	Ms,R	WB	Rabbit pAb
PEN2	ET7109-26	H,Ms,R	WB,IF-Cell,IHC-P,FC,IHC-Fr,IF-Tissue	Rabbit mAb
Perilipin A	ET1703-38	H,Ms	WB,IF-Cell,IF-Tissue	Rabbit mAb
Peroxiredoxin 2	ET1701-61	H,Ms,R	WB,IF-Tissue,IHC-P	Rabbit mAb
Peroxiredoxin 3	ET1704-92	H	WB,IF-Cell,IHC-P,FC,IP	Rabbit mAb
Peroxiredoxin 6	ET1703-62	H,Ms,R	WB,IP,IF-Cell,IF-Tissue	Rabbit mAb
PFKFB3	ET1705-66	H,Ms,R	WB,IF-Cell,IHC-P,FC,IP,IF-Tissue	Rabbit mAb
PFKM	ET7106-97	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
PFKP	HA500472	H,Ms,R	WB,IHC-P	Rabbit pAb
PGAM1	ET7109-13	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
PGK1	ET1609-63	H,Ms,R	WB	Rabbit mAb
PHD1 / prolyl hydroxylase	ET1604-5	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
PHD2	HA723485	H	WB	Rabbit mAb
PHD3	HA721929	H,Ms	WB	Rabbit mAb
PI 3 Kinase p85 alpha	ET1608-70	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
Phospho-PI3K p85 (Y467) + PI3K p55 (Y199)	HA721672	H,Ms	WB,IF-Cell	Rabbit mAb
PKM1	HA722120	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
PKM1/2	HA722524	H,Ms,R	WB,IP	Rabbit mAb
PKM2	ER1802-70	H	WB,IF-Cell,IHC-P	Rabbit pAb
PKM2	ER1901-90	H,Ms	WB,FC	Rabbit pAb
PKM2	HA723370	H,Ms,R,Mk	WB,IF-Cell,IHC-P,FC,IP	Rabbit mAb
PKM2	R1603-5	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit pAb
Urokinase	HA500429	H,R	WB,IF-Cell	Rabbit pAb
PLGF	ET1704-99	H,Ms,R	WB,IHC-P	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
PML Protein	HA500540	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit pAb
POMC	HA721250	H,Ms,R,Cmk,P	WB,IHC-P,IF-Tissue	Rabbit mAb
PP1C gamma	HA500138	H,Ms,R	WB,IHC-P,IF-Cell,FC	Rabbit pAb
PPAR	HA500569	Ms,R	WB	Rabbit pAb
PPP1CA	HA500074	H,Ms,R	WB,IHC-P	Rabbit pAb
Phospho-PPP1CA (T320)	HA723194	H,Ms,R	WB,IHC-P,IP	Rabbit mAb
PPP1CB	ET7109-40	H,Ms,R	WB,IP,IHC-P,IF-Cell,FC	Rabbit mAb
Presenilin 2 / AD5	HA723300	H,Ms,R	WB,IF-Cell,FC,IP	Rabbit mAb
PRR5	HA500295	H,Ms,R	WB	Rabbit pAb
PYK2	ET1610-82	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P	Rabbit mAb
Pyruvate Dehydrogenase E2	HA721267	H,Ms,R	WB,IHC-P,IF-Cell	Rabbit mAb
Pan-Lactyl-lysine	HA722038	S	WB,IHC-P,IF-Cell,FC,Dot Blot	Rabbit mAb
Ras	ET1601-16	H,Ms,R,Z	WB,IF-Cell,FC,IP	Rabbit mAb
Retinoid X Receptor alpha	ET7108-99	H,R,Ms	WB,IF-Cell,IHC-P,IP	Rabbit mAb
RRAS2	HA500379	H,Ms,R	WB,IHC-P	Rabbit pAb
SCD1	HA500119	H	WB	Rabbit pAb
SCD1	HA601180	H,Ms,R	WB	Mouse mAb
SDHA	ET1703-40	H,Ms,R,Z	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
SDHB	HA722901	H,Ms,R	WB,IHC-P,IP,IF-Cell	Rabbit mAb
SLC16A3 / MCT 4	HA722766	H,Mk	WB,IF-Cell,IHC-P,FC	Rabbit mAb
SNAP25	HA721892	H,Ms,R	WB,IHC-P,IF-Cell,FC	Rabbit mAb
SOD2	ET1701-54	H,Ms,R	WB,IHC-P	Rabbit mAb
SOD2 (acetyl K68)	HA722463	H,Ms,R	WB,IHC-P	Rabbit mAb
Sodium Potassium ATPase	ET1609-76	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P	Rabbit mAb
Somatostatin Receptor 2	HA722521	H,Ms,R	WB,IHC-P,IF-Tissue,IHC-Fr	Rabbit mAb
Sonic Hedgehog Protein/SHH(C-Product)	ET1610-6	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
SPHK1	ET1704-76	H	WB,IHC-P,FC	Rabbit mAb
SRC1	ET7107-44	H	WB,IHC-P,IP,IF-Cell	Rabbit mAb
SREBP1	HA500210	H,Ms	WB,IF-Cell,IHC-P	Rabbit pAb
Phospho-STAT5 (Y694)	ET1610-48	H,R,Ms	WB,IHC-P,IF-Cell	Rabbit mAb
STAT5a	ET1610-58	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,IP,FC	Rabbit mAb
Sterol carrier protein 2	HA720099	H,Ms	WB,IHC-P	Rabbit mAb
SULT2A1	ET7108-26	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb

Product name	Catalog#	Reactivity	Tested applications	Antibody type
Superoxide Dismutase 1	ET1702-36	H,Ms,R,Cmk,P	WB,IF-Cell,IHC-P,FC	Rabbit mAb
Superoxide Dismutase 3	HA721408	H	WB	Rabbit mAb
Syndecan 1	ET1703-42	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
SLC1A5	HA722890	H,Ms	WB,IF-Cell,IHC-P,FC,IF-Tissue	Rabbit mAb
TBLR1	HA722331	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
TGF beta 1	HA721143	H,Ms,R	WB,IHC-P,IF-Tissue	Rabbit mAb
Thioredoxin 2	HA722142	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit mAb
Thrombospondin 1	HA721916	H,Ms,R	WB,IHC-P,IF-Cell,IF-Tissue,FC	Rabbit mAb
Thyroid Peroxidase/TPO	HA721173	H	IHC-P	Rabbit mAb
Tissue type plasminogen activator	ET1702-19	H,Ms,R	WB,IHC-P	Rabbit mAb
Transferrin Receptor (CD71)	ET1702-06	H,Ms,R	WB,IP,FC	Rabbit mAb
Triosephosphate isomerase	HA500283	H,Ms,R,Mk	WB,IHC-P,FC	Rabbit pAb
Tryptophan Hydroxylase 1 (TPH1)	ET1610-37	H,Ms,R,Cmk,P	WB,IF-Cell,IF-Tissue,IHC-P,IP,FC	Rabbit mAb
TSH	HA601072	H,R	IHC-P	Mouse mAb
TXNIP	ET1705-72	H,Ms,R	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
Tyrosine Hydroxylase	ET1612-65	H,Ms,R,Cmk	WB,IHC-P,IF-Tissue,IHC-Fr	Rabbit mAb
Ube2B	ET7111-09	H,Ms,R,Z	WB,IHC-P	Rabbit mAb
UCP1	HA500118	H,Ms,R	WB,IHC-P	Rabbit pAb
UGP2	EM1701-76	H,Ms,R	WB,IHC-P,IF-Cell	Mouse mAb
UQCRC2	HA721872	H,Ms,R	WB,IF-Cell,IHC-P,FC	Rabbit mAb
UQCRH	HA720113	H,Ms,R	WB,IHC-P,FC	Rabbit mAb
Urokinase	ET1703-26	H,Ms,R	WB,IHC-P	Rabbit mAb
USF1	HA722469	H,Ms,R	WB,IHC-P,IF-Cell,FC	Rabbit mAb
VAMP2	ET1703-50	H,Ms,R	WB,IF-Cell,FC,IP,IHC-P	Rabbit mAb
VAPA	HA722372	H,Ms,R	WB,IF-Cell,IHC-P	Rabbit mAb
VDAC1	ET1601-20	H,Ms,R	WB,IF-Cell,IHC-P,FC,IF-Tissue	Rabbit mAb
Vitamin D Binding protein	ET1703-09	H	WB,IF-Cell,IF-Tissue,IHC-P,FC	Rabbit mAb
VLDL Receptor	HA500194	H,Ms	WB,IF-Cell,IHC-P,FC	Rabbit pAb

*H: Human; Ms: Mouse; R: Rat; P: Pig; Mk: Monkey; D: Dog; Cmk: Cynomolgus monkey; Z: Zebrafish; S: Species independent

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