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O-linked N-acetylglucosamine (O-GlcNAc) Monoclonal Antibody (RL2)

Catalog Number **MA1-072**

Product data sheet

Details	
Size	100 µL
Host/Isotope	Mouse / IgG1
Class	Monoclonal
Type	Antibody
Clone	RL2
Immunogen	Pore complex-lamina fraction purified from rat liver nuclear envelopes.
Conjugate	Unconjugated
Form	Liquid
Concentration	2 mg/mL
Purification	Protein A
Storage buffer	PBS
Contains	0.05% sodium azide
Storage Conditions	-20° C, Avoid Freeze/Thaw Cycles

Species Reactivity	
Species reactivity	Chemical
Published species	Rat, Fruit fly, Chemical, Amphibian, Hamster, Bovine, Fish, Mouse, Human, Invertebrate, Not Applicable

Tested Applications	Dilution *
ChIP assay (ChIP)	Assay-dependent
Dot blot (DB)	1/800
Immunohistochemistry (Paraffin) (IHC (P))	1:200
Immunoprecipitation (IP)	Assay-dependent
Western Blot (WB)	1:1,000

Published Applications	
Western Blot (WB)	See 63 publications below
Immunocytochemistry (ICC/IF)	See 4 publications below
Immunohistochemistry (IHC)	See 7 publications below
Immunohistochemistry (Paraffin) (IHC (P))	See 1 publications below
Immunoprecipitation (IP)	See 10 publications below
Functional Assay (FN)	See 1 publications below
Miscellaneous PubMed (Misc)	See 2 publications below
ChIP assay (ChIP)	See 2 publications below
ELISA (ELISA)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

MA1-072 detects nuclear pore complex (NPC), cytoplasmic and intranuclear O-linked glycoproteins from human, mouse, virus and rat tissues. MA1-072 has been successfully used in Western blot, immunofluorescence and immunoprecipitation procedures. By Western blot, this antibody recognizes up to eight different proteins from the NPC of approximately 210, 180, 145, 100, 63, 58, 54 and 45 kDa as well as other O-linked glycoproteins outside of the NPC. Immunofluorescence staining of the NPC with MA1-072 primarily labels NPC O-linked glycoproteins and has been successfully used on a wide variety of mammalian cells. Labeling occurs at the NPC, with most of the labeling at the cytoplasmic and/or nucleoplasmic margins, as well as within the nucleus. The MA1-072 immunogen is pore complex-lamina fraction purified from rat liver nuclear envelopes.

Background/Target Information

O-linked N-acetylglucosamine (O-GlcNAc) is a posttranslational modification characterized by the attachment of N-acetylglucosamine to specific serine or threonine residues. Unlike other protein glycosylations, O-GlcNAc modifications occur within the nucleus and cytoplasm. They are found on many cellular proteins, including nuclear pore, oncogene, cytoskeletal, heat shock, viral and transcription regulatory proteins. O-GlcNAc glycosylations are thought to obscure phosphorylation sites, counteracting phosphorylation-dependent signaling pathways and protein interactions.

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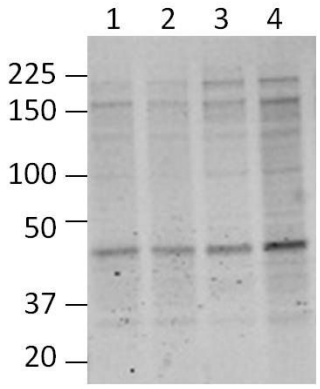
Product Images For O-linked N-acetylglucosamine (O-GlcNAc) Monoclonal Antibody (RL2)



O-linked N-acetylglucosamine (O-GlcNAc) Antibody (MA1-072) in WB

Western blot analysis of mouse cortical brain lysates using O-Linked N-Acetylglucosamine Monoclonal Antibody (Product # MA1-072). Blots containing cortical extracts from 4 individual C57BL/6 mice (Lanes 1-4) were blocked with 5% milk in TBST, and probed with MA1-072 (1:1000), followed by a fluorophore-conjugated goat anti-mouse IgG secondary antibody. Data courtesy of the Innovators Program.

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PubMed References For O-linked N-acetylglucosamine (O-GlcNAc) Monoclonal Antibody (RL2)

63 Western Blot References

Species / Dilution	Summary
Rat / 1:500	MA1-072 was used in western blot to study why acute hyperglycemia worsens the outcome of transient focal cerebral ischemia Stroke (2006; 37: 1288) **"Why does acute hyperglycemia worsen the outcome of transient focal cerebral ischemia? Role of corticosteroids, inflammation, and protein O-glycosylation."** Author(s):Martín A,Rojas S,Chamorro A,Falcón C,Bargalló N,Planas AM PubMed Article URL:http://dx.doi.org/10.1161/01.STR.0000217389.55009.f8
Human / 1:500	MA1-072 was used in western blot to study mitochondrial VDAC-2 O-GlcNAcylation using a glycoproteomics approach Cell reports (2013; 5: 546) **"A chemical glycoproteomics platform reveals O-GlcNAcylation of mitochondrial voltage-dependent anion channel 2."** Author(s):Palaniappan KK,Hangauer MJ,Smith TJ,Smart BP,Pitcher AA,Cheng EH,Bertozzi CR,Boyce M PubMed Article URL:http://dx.doi.org/10.1016/j.celrep.2013.08.048
Not Applicable / Not Cited	MA1-072 was used in western blot to elucidate how endoplasmic reticulum-to-Golgi transport is blocked during mitosis FEBS letters (2004; 561: 44) **"Regulation of a COPII component by cytosolic O-glycosylation during mitosis."** Author(s):Dudognon P,Maeder-Garavaglia C,Carpentier JL,Paccaud JP PubMed Article URL:http://dx.doi.org/10.1016/S0014-5793(04)00109-7
Chemical / Not Cited	MA1-072 was used in Western Blot to study the expression profile and downstream effects of transglutaminase 2 during cellular infection with Chlamydia trachomatis. The EMBO journal (2020; 39:) **"Infection-driven activation of transglutaminase 2 boosts glucose uptake and hexosamine biosynthesis in epithelial cells."** Author(s):Maffei B,Laverrière M,Wu Y,Triboulet S,Perrinet S,Duchateau M,Matondo M,Hollis RL,Gourley C,Rupp J,Keillor JW,Subtil A PubMed Article URL:http://dx.doi.org/10.15252/embj.2019102166
Rat / 1:1,000	MA1-072 was used in western blot to study the effect of the increased flux through the hexosamine pathway on NF-kappaB-dependent promoter activation Diabetes (2002; 51: 1146) **"Flux through the hexosamine pathway is a determinant of nuclear factor kappaB- dependent promoter activation."** Author(s):James LR,Tang D,Ingram A,Ly H,Thai K,Cai L,Scholey JW PubMed Article URL:http://dx.doi.org/10.2337/diabetes.51.4.1146
Rat / Not Cited	MA1-072 was used in western blot to suggest that O-GlcNAc modification could regulate skeletal muscle physiology Molecular & cellular proteomics : MCP (2004; 3: 577) **"Identification of O-linked N-acetylglucosamine proteins in rat skeletal muscle using two-dimensional gel electrophoresis and mass spectrometry."** Author(s):Cieniewski-Bernard C,Bastide B,Lefebvre T,Lemoine J,Mounier Y,Michalski JC PubMed Article URL:http://dx.doi.org/10.1074/mcp.M400024-MCP200
Rat / 1:1000	MA1-072 was used in western blot to study the role of O-linked-beta-N-acetylglucosamine modification in regulating DRP1 functionality in cardiac muscle cells The Journal of biological chemistry (2012; 287: 30024) **"Modulation of dynamin-related protein 1 (DRP1) function by increased O-linked--N-acetylglucosamine modification (O-GlcNAc) in cardiac myocytes."** Author(s):Gawlowski T,Suarez J,Scott B,Torres-Gonzalez M,Wang H,Schwappacher R,Han X,Yates JR,Hoshijima M,Dillmann W PubMed Article URL:http://dx.doi.org/10.1074/jbc.M112.390682
Chemical / Not Cited	MA1-072 was used in Western Blotting to discover whether O-GlcNAcylation could represent one link between nutrition and epigenetic downregulation of key tumor suppressor genes governing colon carcinogenesis including UNC5A. Cancers (2020; 12:) **"O-GlcNAcylation Links Nutrition to the Epigenetic Downregulation of UNC5A during Colon Carcinogenesis."** Author(s):Decourcelle A,Very N,Djouina M,Loison I,Thévenet J,Body-Malapel M,Lelièvre E,Coqueret O,Leprince D,El Yazidi-Belkoura I,Dehennaut V PubMed Article URL:http://dx.doi.org/10.3390/cancers12113168

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Fruit fly / 1:2000	MA1-072 was used in western blot to study the setting of the Drosophila circadian clock pace and the role played by O-GlcNAcylation
	Genes & development (2012; 26: 490) **"A role for O-GlcNAcylation in setting circadian clock speed."** Author(s):Kim EY,Jeong EH,Park S,Jeong HJ,Edery I,Cho JW PubMed Article URL:http://dx.doi.org/10.1101/gad.182378.111
Fruit fly / 1:1000	MA1-072 was used in western blot to study the effect of orotein O-GlcNAcylation on Drosophila growth and its mechanism
	Cellular and molecular life sciences : CMLS (2011; 68: 3377) **"Protein O-GlcNAcylation regulates Drosophila growth through the insulin signaling pathway."** Author(s):Park S,Park SH,Baek JY,Jy YJ,Kim KS,Roth J,Cho JW,Choe KM PubMed Article URL:http://dx.doi.org/10.1007/s00018-011-0640-7
Human / 1:2000	MA1-072 was used in western blot to study the role of a feeder layer in suppressing proteasome degradation of Sp1 and NF1 transcription factors in human skin keratinocytes
	Journal of molecular biology (2012; 418: 281) **"Rescue of the transcription factors Sp1 and NFI in human skin keratinocytes through a feeder-layer-dependent suppression of the proteasome activity."** Author(s):Duval C,Gaudreault M,Vigneault F,Touzel-Deschênes L,Rochette PJ,Masson-Gadais B,Germain L,Guérin SL PubMed Article URL:http://dx.doi.org/10.1016/j.jmb.2012.01.021
Mouse / 1:500	MA1-072 was used in western blot to study the mechanism by which O-GlcNAcylation prevents pathological agregation of tau in a murine tauopathy model
	Neuropharmacology (2014; 79: 307) **"Increased O-GlcNAcylation reduces pathological tau without affecting its normal phosphorylation in a mouse model of tauopathy."** Author(s):Graham DL,Gray AJ,Joyce JA,Yu D,O'Moore J,Carlson GA,Shearman MS,Dellovade TL,Hering H PubMed Article URL:http://dx.doi.org/10.1016/j.neuropharm.2013.11.025
Human / Not Cited	MA1-072 was used in Western Blotting to suggest that the regulation of colonic OGA expression in response to changes in O-GlcNAc homeostasis occurs mostly at the transcriptional level whereas OGT regulation seems to rely mainly on post-transcriptional mechanisms.
	Biochemical and biophysical research communications (2020; 521: 125) **"Evidence of a compensatory regulation of colonic O-GlcNAc transferase and O-GlcNAcase expression in response to disruption of O-GlcNAc homeostasis."** Author(s):Decourcelle A,Loison I,Baldini S,Leprince D,Dehennaut V PubMed Article URL:http://dx.doi.org/10.1016/j.bbrc.2019.10.090
Rat / 1:1,000	MA1-072 was used in western blot to investigate the changes of O-linked N-acetylglucosamine transferase and O-glycosylation of Sp1 during insulin stimulation and diabetes
	Diabetes (2004; 53: 3184) **"Insulin stimulates and diabetes inhibits O-linked N-acetylglucosamine transferase and O-glycosylation of Sp1."** Author(s):Majumdar G,Wright J,Markowitz P,Martinez-Hernandez A,Raghow R,Solomon SS PubMed Article URL:http://dx.doi.org/10.2337/diabetes.53.12.3184
Rat / 1:1,000	MA1-072 was used in western blot to investigate the effect of O-glycosylation on plasminogen activator inhibitor-1 gene expression and Sp1 transcriptional activity in glomerular mesangial cells..
	Endocrinology (2006; 147: 222) **"Posttranslational, reversible O-glycosylation is stimulated by high glucose and mediates plasminogen activator inhibitor-1 gene expression and Sp1 transcriptional activity in glomerular mesangial cells."** Author(s):Goldberg HJ,Whiteside CI,Hart GW,Fantus IG PubMed Article URL:http://dx.doi.org/10.1210/en.2005-0523
Fruit fly / Not Cited	MA1-072 was used in western blot to investigate the role of O-GlcNAcylation in autophagy
	Cellular and molecular life sciences : CMLS (2015; 72: 3173) **"O-GlcNAc modification is essential for the regulation of autophagy in Drosophila melanogaster."** Author(s):Park S,Lee Y,Pak JW,Kim H,Choi H,Kim JW,Roth J,Cho JW PubMed Article URL:http://dx.doi.org/10.1007/s00018-015-1889-z

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	MA1-072 was used in Immunoprecipitation to illustrate a mechanism in balancing ribosome recycling and reinitiation, thereby linking the nutrient stress response and translational reprogramming.
Mouse / Not Cited	Nature chemical biology (2022; 18: 134) **"Dynamic eIF3a O-GlcNAcylation controls translation reinitiation during nutrient stress."** Author(s):Shu XE,Mao Y,Jia L,Qian SB PubMed Article URL:http://dx.doi.org/10.1038/s41589-021-00913-4
Human / Not Cited	MA1-072 was used in western blot to study the decrease in protein O-GlcNAcylation and OGT following inhibition of mTOR catalytic activity
	Biochemical and biophysical research communications (2014; 453: 208) **"Inhibition of mTOR affects protein stability of OGT."** Author(s):Park S,Pak J,Jang I,Cho JW PubMed Article URL:http://dx.doi.org/10.1016/j.bbrc.2014.05.047
Mouse / Not Cited	MA1-072 was used in western blot to investigate the effect of ROS on insulin resistance
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Human / Not Cited	MA1-072 was used in western blot to study the role of Sp1 and Sp3 transcription factors in feeder layer-mediated extention of cultured keratinocyte lifespan
	Journal of cellular physiology (2006; 206: 831) **"The feeder layer-mediated extended lifetime of cultured human skin keratinocytes is associated with altered levels of the transcription factors Sp1 and Sp3."** Author(s):Masson-Gadais B,Fugère C,Paquet C,Leclerc S,Lefort NR,Germain L,Guérin SL PubMed Article URL:http://dx.doi.org/10.1002/jcp.20529
Human / Not Cited	MA1-072 was used in western blot to study the regulation of neuronal Glut3 expression by CREB and the significance for the lowered Glut3 expression and glucose uptake observed in Alzheimer's disease brain
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Chemical / 1:1000	MA1-072 was used in Western Blotting to describe the role of O-GlcNAc in fibroblast motility and differentiation, particularly in diabetic wound healing.
	Nature chemical biology (2021; 17: 169) **"MYPT1 O-GlcNAc modification regulates sphingosine-1-phosphate mediated contraction."** Author(s):Pedowitz NJ,Batt AR,Darabedian N,Pratt MR PubMed Article URL:http://dx.doi.org/10.1038/s41589-020-0640-8
Human / 1:1,000	MA1-072 was used in western blot to investigate the interaction between Sp1 and p62
	Journal of cellular biochemistry (1998; 68: 50) **"Interaction of the transcription factor Sp1 with the nuclear pore protein p62 requires the C-terminal domain of p62."** Author(s):Han I,Roos MD,Kudlow JE PubMed Article URL:http://dx.doi.org/10.1002/(sici)1097-4644(19980101)68:1<50::aid-jcb5>3.0.co;2-v
Mouse / 1:1000 Rat / 1:1000	MA1-072 was used in Immunocytochemistry-immunofluorescence to reveal that the decreased O-GlcNAc levels and increased O-GlcNAcylation of Parkin might cause hyperoxia-induced alveolar type II cells injurys.
	Respiratory research (2023; 24:) **"O-linked N-acetylglucosamine affects mitochondrial homeostasis by regulating Parkin-dependent mitophagy in hyperoxia-injured alveolar type II cells injury."** Author(s):Xuefei Y,Dongyan L,Tianming L,Hejuan Z,Jianhua F PubMed Article URL:http://dx.doi.org/10.1186/s12931-022-02287-0
Mouse / Not Cited	MA1-072 was used in western blot to investigate the effect of glucosamine-supplementation on endoplasmic reticulum, hepatic steatosis and atherogenesis in apoE-/- mice
	Atherosclerosis (2011; 219: 134) **"Glucosamine-supplementation promotes endoplasmic reticulum stress, hepatic steatosis and accelerated atherogenesis in apoE-/- mice."** Author(s):Beriault DR,Sharma S,Shi Y,Khan MI,Werstuck GH PubMed Article URL:http://dx.doi.org/10.1016/j.atherosclerosis.2011.07.108

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	MA1-072 was used in Western Blotting to demonstrate that the hexosamine biosynthetic pathway (HBP) is induced in cardiomyocytes during hypertrophic growth.
Rat / 1:1000	Nature communications (2020; 11:) **"Chronic activation of hexosamine biosynthesis in the heart triggers pathological cardiac remodeling."** Author(s):Tran DH,May HI,Li Q,Luo X,Huang J,Zhang G,Niewold E,Wang X,Gillette TG,Deng Y,Wang ZV PubMed Article URL:http://dx.doi.org/10.1038/s41467-020-15640-y

4 Immunocytochemistry References

Species / Dilution	Summary
	MA1-072 was used in immunocytochemistry to investigate the destabilisation of cortical filamentous actin and dysfunction of glucose transport induced by accrual
Rat / Not Cited	Diabetologia (2012; 55: 457) **"Fat-induced membrane cholesterol accrual provokes cortical filamentous actin destabilisation and glucose transport dysfunction in skeletal muscle."** Author(s):Habegger KM,Penque BA,Sealls W,Tackett L,Bell LN,Blue EK,Gallagher PJ,Sturek M,Alloosh MA,Steinberg HO, Considine RV,Elmendorf JS PubMed Article URL:http://dx.doi.org/10.1007/s00125-011-2334-y
	MA1-072 was used in immunocytochemistry and immunohistochemistry to study the role of the interaction of surface vimentin with O-GlcNAc-modified proteins in the engulfment clearance of apoptotic cells
Human / 1:100	Glycobiology (2012; 22: 788) **"Engulfment and clearance of apoptotic cells based on a GlcNAc-binding lectin-like property of surface vimentin."** Author(s):Ise H,Goto M,Komura K,Akaike T PubMed Article URL:http://dx.doi.org/10.1093/glycob/cws052
	MA1-072 was used in Immunocytochemistry to investigated O-GlcNAcylation dynamics in bovine and human oocytes during meiosis and determined the developmental sequelae of its perturbation.
Human / Not Cited	Molecular reproduction and development (2019; 86: 543) **"Disruption of O-GlcNAc homeostasis during mammalian oocyte meiotic maturation impacts fertilization."** Author(s):Zhou LT,Romar R,Pavone ME,Soriano-Úbeda C,Zhang J,Slawson C,Duncan FE PubMed Article URL:http://dx.doi.org/10.1002/mrd.23131
	MA1-072 was used in Immunocytochemistry-immunofluorescence to reveal that the decreased O-GlcNAc levels and increased O-GlcNAcylation of Parkin might cause hyperoxia-induced alveolar type II cells injurys.
Mouse / Not Cited Rat / Not Cited	Respiratory research (2023; 24:) **"O-linked N-acetylglucosamine affects mitochondrial homeostasis by regulating Parkin-dependent mitophagy in hyperoxia-injured alveolar type II cells injury."** Author(s):Xuefei Y,Dongyan L,Tianming L,Hejuan Z,Jianhua F PubMed Article URL:http://dx.doi.org/10.1186/s12931-022-02287-0

7 Immunohistochemistry References

Species / Dilution	Summary
	MA1-072 was used in immunohistochemistry to investigate the O-GlcNAcylation level in the lung and colon tumor tissues
Human / 1:200	Biochimica et biophysica acta (2011; 1812: 514) **"O-GlcNAcylation is a novel regulator of lung and colon cancer malignancy."** Author(s):Mi W,Gu Y,Han C,Liu H,Fan Q,Zhang X,Cong Q,Yu W PubMed Article URL:http://dx.doi.org/10.1016/j.bbadis.2011.01.009
	MA1-072 was used in immunohistochemistry to study the role of the myosin16b COOH-tail region in localization to the nucleus and S-phase progression
Hamster / Not Cited	Cell motility and the cytoskeleton (2007; 64: 19) **"Myosin16b: The COOH-tail region directs localization to the nucleus and overexpression delays S-phase progression."** Author(s):Cameron RS,Liu C,Mixon AS,Pihkala JP,Rahn RJ,Cameron PL PubMed Article URL:http://dx.doi.org/10.1002/cm.20162
	MA1-072 was used in Immunohistochemistry to evaluate the level of O-GlcNAcylation in patients with colorectal cancer with or without type 2 diabetes mellitus (T2DM).
Human / 1:200	Oncology letters (2020; 20: 1171) **"Enhancement of O-linked N-acetylglucosamine modification promotes metastasis in patients with colorectal cancer and concurrent type 2 diabetes mellitus."** Author(s):Naka Y,Okada T,Nakagawa T,Kobayashi E,Kawasaki Y,Tanaka Y,Tawa H,Hirata Y,Kawakami K,Kakimoto K, Inoue T,Takeuchi T,Fukunishi S,Hirose Y,Uchiyama K,Asahi M,Higuchi K PubMed Article URL:http://dx.doi.org/10.3892/ol.2020.11665

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Human / Not Cited	MA1-072 was used in immunohistochemistry to investigate the role of O-linked glycosylation modification of signaling proteins in insulin-dependent activation of endothelial nitric oxide synthase Circulation (2002; 106: 466) **"Insulin-dependent activation of endothelial nitric oxide synthase is impaired by O-linked glycosylation modification of signaling proteins in human coronary endothelial cells."** Author(s):Federici M,Menghini R,Mauriello A,Hribal ML,Ferrelli F,Lauro D,Sbraccia P,Spagnoli LG,Sesti G,Lauro R PubMed Article URL:http://dx.doi.org/10.1161/01.cir.0000023043.02648.51
Human / 1:200	MA1-072 was used in Immunohistochemistry to uncover a previously unrecognized mechanistic role for MORC2 O-GlcNAcylation in breast cancer progression and provide evidence for targeting MORC2-dependent breast cancer through blocking its O-GlcNAcylation. Cell death and differentiation (2022; 29: 861) **"O-GlcNAcylation of MORC2 at threonine 556 by OGT couples TGF- signaling to breast cancer progression."** Author(s):Liu YY,Liu HY,Yu TJ,Lu Q,Zhang FL,Liu GY,Shao ZM,Li DQ PubMed Article URL:http://dx.doi.org/10.1038/s41418-021-00901-0
Rat / 1:200	MA1-072 was used in immunohistochemistry to elucidate the role of O-GlcNAc modification in the pathogenesis of diabetic keratopathy. Investigative ophthalmology & visual science (2003; 44: 3802) **"Elevated expression of O-GlcNAc-modified proteins and O-GlcNAc transferase in corneas of diabetic Goto-Kakizaki rats."** Author(s):Akimoto Y,Kawakami H,Yamamoto K,Munetomo E,Hida T,Hirano H PubMed Article URL:http://dx.doi.org/10.1167/iovs.03-0227
Mouse / Not Cited	MA1-072 was used in immunohistochemistry and western blot to study the beneficial effects of increasing the O-GlucNAcylation of brain proteins on the survival and breathing of aged tau P301L transgenic mice PloS one (2014; 8:) **"Increasing brain protein O-GlcNAc-ylation mitigates breathing defects and mortality of Tau.P301L mice."** Author(s):Borghgraef P,Menuet C,Theunis C,Louis JV,Devijver H,Maurin H,Smet-Nocca C,Lippens G,Hilaire G,Gijsen H,Moechars D,Van Leuven F PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0084442

1 Immunohistochemistry (Paraffin) References

Species / Dilution	Summary
Human / 1:500	MA1-072 was used in Immunohistochemistry (Paraffin) to investigate the levels of O-GlcNAc and the expressions of O-linked N-acetylglucosamine transferase (OGT) and O-GlcNAcase (OGA) in human osteosarcoma tissues. Applied immunohistochemistry & molecular morphology : AIMM (2022; 30: e1) **"Relationship Between O-GlcNAcase Expression and Prognosis of Patients With Osteosarcoma."** Author(s):Sombutthaweesri T,Wu S,Chamusri N,Settakorn J,Pruksakorn D,Chaiyawat P,Sastraruji T,Krisanaprakornkit S,Supanchart C PubMed Article URL:http://dx.doi.org/10.1097/PAI.0000000000000970

10 Immunoprecipitation References

Species / Dilution	Summary
Not Applicable / Not Cited	MA1-072 was used in immunoprecipitation and western blot to investigate the modulator of skeletal muscle sarcomeric morphometry associated to modulation of protein-protein interactions by O-GlcNAcylation Biochimica et biophysica acta (2016; 1860: 2017) **"O-GlcNAcylation is a key modulator of skeletal muscle sarcomeric morphometry associated to modulation of protein-protein interactions."** Author(s):Lambert M,Richard E,Duban-Deweer S,Krzewinski F,Deracinois B,Dupont E,Bastide B,Cieniewski-Bernard C PubMed Article URL:http://dx.doi.org/10.1016/j.bbagen.2016.06.011
Chemical / Not Cited	MA1-072 was used in Immunoprecipitation to study the role of the post-translational modification, O-linked -N-acetylglucosaminylation, on the cellular DNA damage response. International journal of molecular sciences (2021; 22:) **"O-GlcNAcylation Affects the Pathway Choice of DNA Double-Strand Break Repair."** Author(s):Averbek S,Jakob B,Durante M,Averbeck NB PubMed Article URL:http://dx.doi.org/10.3390/ijms22115715
Rat / Not Cited	MA1-072 was used in immunoprecipitation to study the inhibition of O-GlcNAc-selective N-acetyl-beta-D-glucosaminidase as the potential diabetogenic mechanism of streptozotocin The Biochemical journal (2001; 356: 31) **"The potential mechanism of the diabetogenic action of streptozotocin: inhibition of pancreatic beta-cell O-GlcNAc-selective N-acetyl-beta-D-glucosaminidase."** Author(s):Konrad RJ,Mikolaenko I,Tolar JF,Liu K,Kudlow JE PubMed Article URL:http://dx.doi.org/10.1042/0264-6021:3560031

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	MA1-072 was used in Immunoprecipitation to highlight the impact of O-GlcNAcylation on mitochondrial dynamics and ETC function and mimic the changes that may occur during glucose toxicity from hyperglycemia.
Rat / Not Cited	Scientific reports (2021; 11:) **"Blocked O-GlcNAc cycling alters mitochondrial morphology, function, and mass."** Author(s):Akinbiyi EO,Abramowitz LK,Bauer BL,Stoll MSK,Hoppel CL,Hsiao CP,Hanover JA,Mears JA PubMed Article URL:http://dx.doi.org/10.1038/s41598-021-01512-y
	MA1-072 was used in Immunoprecipitation to demonstrate that WNK1 plays a critical function by orienting hCECs into the appropriate biological response during the process of corneal wound healing.
Human / Not Cited	Journal of cellular physiology (2022; 237: 2434) **"The WNK1 kinase regulates the stability of transcription factors during wound healing of human corneal epithelial cells."** Author(s):Desjardins P,Le-Bel G,Ghio SC,Germain L,Guérin SL PubMed Article URL:http://dx.doi.org/10.1002/jcp.30698
	MA1-072 was used in Immunoprecipitation to illustrate a mechanism in balancing ribosome recycling and reinitiation, thereby linking the nutrient stress response and translational reprogramming.
Mouse / Not Cited	Nature chemical biology (2022; 18: 134) **"Dynamic eIF3a O-GlcNAcylation controls translation reinitiation during nutrient stress."** Author(s):Shu XE,Mao Y,Jia L,Qian SB PubMed Article URL:http://dx.doi.org/10.1038/s41589-021-00913-4
	MA1-072 was used in immunoprecipitation to study the regulation of carbohydrate-responsive element-binding protein (ChREBP) in the liver
Not Applicable / Not Cited	Diabetes (2011; 60: 1399) **"O-GlcNAcylation increases ChREBP protein content and transcriptional activity in the liver."** Author(s):Guinez C,Filhoulaud G,Rayah-Benhamed F,Marmier S,Dubuquoy C,Dentin R,Moldes M,Burnol AF,Yang X, Lefebvre T,Girard J,Postic C PubMed Article URL:http://dx.doi.org/10.2337/db10-0452
	MA1-072 was used in immunoprecipitation to study the role of cytosolic O-glycosylation of E-cadherin in blocking its transport to the cell surface during apoptosis
Human / Not Cited	The EMBO journal (2001; 20: 5999) **"Cytoplasmic O-glycosylation prevents cell surface transport of E-cadherin during apoptosis."** Author(s):Zhu W,Leber B,Andrews DW PubMed Article URL:http://dx.doi.org/10.1093/emboj/20.21.5999
	MA1-072 was used in immunoprecipitation to study the inverse relationship between Mef2D O-GlcNAc glycosylation and its recruitment to the myogenin promoter
Human / Not Cited	Biochemical and biophysical research communications (2013; 433: 558) **"Requirement of decreased O-GlcNAc glycosylation of Mef2D for its recruitment to the myogenin promoter."** Author(s):Ogawa M,Sakakibara Y,Kamemura K PubMed Article URL:http://dx.doi.org/10.1016/j.bbrc.2013.03.033
	MA1-072 was used in immunoprecipitation to study the changes in slow isoform MLC2 phosphorylation and O-GlcNAcylation status during soleus muscle atrophy and the mechanisms involved
Rat / 1:250	Pflugers Archiv : European journal of physiology (2014; 466: 2139) **"Phospho-GlcNAc modulation of slow MLC2 during soleus atrophy through a multienzymatic and sarcomeric complex."** Author(s):Cieniewski-Bernard C,Dupont E,Richard E,Bastide B PubMed Article URL:http://dx.doi.org/10.1007/s00424-014-1453-y

1 Functional Assay References

Species / Dilution	Summary
	MA1-072 was used in Functional Assay to solidify the importance of O-GlcNAc in regulating the biology of fibroblasts in response to procontractile stimuli.
Mouse / Not Cited	The Journal of biological chemistry (2021; 296:) **"O-GlcNAc modification of MYPT1 modulates lysophosphatidic acid-induced cell contraction in fibroblasts."** Author(s):Morales MM,Pedowitz NJ,Pratt MR PubMed Article URL:http://dx.doi.org/10.1016/j.jbc.2021.100800

2 Miscellaneous PubMed References

Species / Dilution	Summary

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	MA1-072 was used in western blot to study tau phosphorylation and O-GlcNAcylation in a mouse model of Alzheimer's disease
Not Applicable / 1:2000	Pharmacological research (2016; 105: 186) **"Evidence for an imbalance between tau O-GlcNAcylation and phosphorylation in the hippocampus of a mouse model of Alzheimer's disease."** Author(s):Gatta E,Lefebvre T,Gaetani S,dos Santos M,Marrocco J,Mir AM,Cassano T,Maccari S,Nicoletti F,Mairesse J PubMed Article URL:http://dx.doi.org/10.1016/j.phrs.2016.01.006
	MA1-072 was used in western blot to discuss how hypoxia is influenced by O-GlcNAcylation
Not Applicable / Not Cited	Placenta (2015; 36: 1063) **"O-GlcNAc cycling enzymes control vascular development of the placenta by modulating the levels of HIF-1."** Author(s):Yang YR,Jang HJ,Lee YH,Kim IS,Lee H,Ryu SH,Suh PG PubMed Article URL:http://dx.doi.org/10.1016/j.placenta.2015.08.001

2 ChIP assay References

Species / Dilution	Summary
	MA1-072 was used in ChIP assay to investigate the role of transcription factor Sp1 glycosylation during stress-induced expression of p75 neurotrophin receptor
Not Applicable / Not Cited	Journal of neurochemistry (2011; 116: 396) **"Stress-induced expression of the p75 neurotrophin receptor is regulated by O-GlcNAcylation of the Sp1 transcription factor."** Author(s):Kommaddi RP,Dickson KM,Barker PA PubMed Article URL:http://dx.doi.org/10.1111/j.1471-4159.2010.07120.x
	MA1-072 was used in ChIP assay and western blot to study the epigenetic regulatory mechanisms underlying the brain-specific expression of N-acetylglucosaminyltransferase-IX
Mouse / Not Cited	The Journal of biological chemistry (2014; 289: 11253) **"Epigenetic regulation of a brain-specific glycosyltransferase N-acetylglucosaminyltransferase-IX (GnT-IX) by specific chromatin modifiers."** Author(s):Kizuka Y,Kitazume S,Okahara K,Villagra A,Sotomayor EM,Taniguchi N PubMed Article URL:http://dx.doi.org/10.1074/jbc.M114.554311

1 ELISA References

Species / Dilution	Summary
	MA1-072 was used in ELISA to evaluate the efficacy and applications of two monoclonal antibodies against o-glycosidically linked N-acetylglucosamine modification of proteins
Mouse / 1:4000	Methods in molecular biology (Clifton, N.J.) (2008; 446: 267) **"Immunochemical methods for the rapid screening of the o-glycosidically linked N-acetylglucosamine modification of proteins."** Author(s):Ahrend M,Käberich A,Fergen MT,Schmitz B PubMed Article URL:http://dx.doi.org/10.1007/978-1-60327-084-7_19

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