



Code No.KAL-KH036

For research use only

Anti Nitrotyrosin Monoclonal Antibody (Clone No. 2H1)

To elucidate the function of Nitric Oxide (NO) related signal transduction, we developed new monoclonal antibody to Nitrotyosin (Clone No.2H1). There are two pathways, which is engaged in the signal transduction regarding vascular relaxation on endothelial cell. One is through activated guantyate cyclase that is cGMP dependent and another is cGMP independent pathway which requires reactive NO derived substance such as, peroxinitrate(ONOO⁻), N₂O₃,N₂O₄(NO₂).

Recently, various functions of reactive NO derived substance has been identified for example regulating protein phosphorylation and inducing apoptosis. So, it is believed that reactive NO derived substance is involved in signal transduction among cells. Immunohystochemical study revealed that nitotyrosin residue is produced in some patient such as athrosclerosis, Alzheimer's disease, Parkinson's disease, and acute lung damage.

This antibody is very useful for the research of reactive NO derived substance.

Package Size $100 \mu g (400 \mu L / vial)$

Format Mouse monoclonal antibody 0.25mg/mL

Buffer PBS [containing 2% Block Ace as a stabilizer, 0.1% Proclin as a bacteriostat]

Storage Store below –20°C

Once thawed, store at 4°C. Repeated freeze-thaw cycles should be avoided

Clone No. 2H1
Subclass IgG1

Purification The spleen cells from BALB/c mouse, immunized with nitrotyrosin-HSA, were fused to method myeloma P3U1 cells. The screening of the hybridoma cells was performed on ELISA.

myeloma P3U1 cells. The screening of the hybridoma cells was performed on ELISA. The cell line was grown on non-serum medium, from which the antibody was purified by

Protein G affinity chromatography.

Distributor

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Inspiration for Life Science

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[Reference]

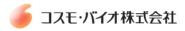
- 1. Furchgott, R. F. Acta Physiol. Scand 139, 257-70, 1990
- 2. Moncada, S. & Higgs, A. N. Eng. J. Med 329, 2002-12, 1993
- 3. Ischiropoulos, H. Arch. . Biochem. Biophys 356, 1-11, 1998
- 4. Stamler, J. S., Toone, E. J., Lipton, S. A. & Sucher, N. J. Neuron 18, 691-6, 1997
- **5.** Akaike, T., et al. *J. biochem* 122, 459-66, 1997
- **6.** Beckman, J. S., Ye, Y. Z., et al.: Extensive nitration of protein tyrosines in human atherosclerosis detection by immunohistochemistry. *Biol. Chem. Hoppe-Seyler* 375, 81-88, 1994
- 7. J. S. Luoma, P. Stralin, et al.: Expression of extracellular SOD and iNOS in macrophages and smooth muscle cells in human and rabbit atherosclerotic lesions. Colocalization with epitopes characteristic of oxidized LDL and peroxynitrite-modified proteins. Aeterioscler. Thoromb. Vasic. Biol 18, 157-167, 1998
- 8. P. F. Good, P. Werner, et al.: Evidence for neuronal oxidative damage in Alzheimer's disease. *Am. J. Pathol* 149, 21-28, 1996
- 9. P. F. Good, A. Hsu, et al.: Protein nitoration in Parkinson's disease. *Journal of Neurophthology and Expermental Neurology* 57, 338-342, 1997
- I.G.Haddad, G. Pataki, et al.: Quantitation of nitorotyrosinelevels in lung section of patients and animals with acute lung injury. J. Clin. Invest 94,2407-2413,1994
- 11. Ryoji Nagai, Seikoh Horiuchi, et al.: Peroxynitrite Induces Formation of N^e-(Carboxymethyl) Lysine by the Cleavage of Amadori Product and Generation of Glucosone and Glyoxal From Glucose. *Diabetes* 51: 2833-2839, 2002

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研究用試薬

抗 ニトロチロシン モノクローナル抗体(Clone No. 2H1)

NO によるシグナル伝達には血管内皮依存性弛緩反応に代表される情報伝達メカニズムである可溶性グアニレートサイクラーゼの活性化による cGMP を介する経路と、cGMP に依存しない NO 由来の反応性窒素酸化物であるパーオキシナイトライト(ONOO-)や N2O3,N2O4(NO2)などによるニトロ化やニトロソ化反応を介する経路があり生体内の幅広い生命現象に関わっており、生体内における一酸化窒素の多彩な生理活性が注目されております。

NO 由来の反応性窒素酸化物であるパーオキシナイトライト(ONOO-)などによるチロシンのニトロ化反応が生体内のリン酸化反応を制御したり、アポトーシスを誘導することにより、細胞内あるいは細胞間のシグナル伝達や細胞死に関与することが示唆され、抗ニトロチロシン抗体を用いた組織染色により、動脈硬化、アルツハイマー病、パーキンソン病、急性肺障害などの病態におけるニトロチロシン残基の生成が確認されています。

パーオキシナイトライトなどの反応性窒素酸化物の生体内における生成の指標や、反応性窒素酸化物の生物活性の解析に有用です。

容量 100μg (400μL/vial)

形状 マウスモノクローナル抗体 0.25mg/mL、凍結品

バッファー PBS [2%ブロックエース(安定化蛋白)、0.1%proclin 含有]

保管方法 -20℃以下

抗体を低濃度にて冷蔵保管されますと、失活する恐れがあります。

融解後は4℃で保存し、お早めにご使用下さい。 また凍結融解を繰り返すことは避けて下さい。

クローン番号 2H1 サブクラス IgG1

製造方法 ニトロチロシン・HSA で免疫した BALB/c マウスの脾臓細胞とマウスミエローマ P3U1 を

融合して得たハイブリドーマから、抗原に反応性を示すクローンを選択しました。得られたハイブリドーマを無血清培地で増殖させ、培養上清を採取し、IgGを Protein G アフィ

ニティーカラムにて精製しました。

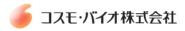


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【参考文献】

- 1. Furchgott, R. F. Acta Physiol. Scand 139, 257-70, 1990
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