

Datasheet: 8450-0004

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| Description: | RABBIT ANTI HUMAN SUBSTANCE P |
| Specificity: | SUBSTANCE P |
| Format: | Purified |
| Product Type: | Polyclonal Antibody |
| Isotype: | Polyclonal IgG |
| Quantity: | 0.5 ml |

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

| | Yes | No | Not Determined | Suggested Dilution |
|--------------------------------|-----|----|----------------|--------------------|
| Immunohistology - Frozen | ▪ | | | 1/50 - 1/200 |
| Immunohistology - Paraffin (1) | ▪ | | | 1/50 - 1/200 |
| Immunofluorescence | ▪ | | | |

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using the appropriate negative/positive controls.

(1) This product requires antigen retrieval using heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose.

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| Target Species | Human |
| Species Cross Reactivity | Reacts with: Chicken, Mouse N.B. Antibody reactivity and working conditions may vary between species. |
| Product Form | Purified IgG - liquid |
| Preparation | Purified IgG prepared by affinity chromatography on Protein G |
| Buffer Solution | Phosphate buffered saline |
| Preservative Stabilisers | 0.09% Sodium Azide (NaN ₃) |
| Approx. Protein Concentrations | 5.0mg/ml |
| Immunogen | Synthetic substance P conjugated to Keyhole limpet hemocyanin. |
| External Database Links | UniProt: P20366 Related reagents |

Entrez Gene:[6863](#) TAC1 [Related reagents](#)

Synonyms NKA, NKNA, TAC2

Specificity **Rabbit anti Human Substance P antibody** recognizes human Protachykinin-1, also known as PPT. Protachykinin-1 is a 129 amino acid ~15kDa tachychinin involved in the excitation of neurons. Protachykinin-1 can be cleaved into a number of chains including substance P, neurokinin A, neuropeptide K, neuropeptide γ and c-terminal flankning peptide. Rabbit anti Human Substance P antibody recognizes an epitope withing the substance P region of the molecule. There are potentially four isoforms of Protachykinin-1 (α - δ) formed by alternative splicing, all containing the substance P peptide region ([UniProt: P20366](#)).

Rabbit anti Human Substance P antibody stains substance P secreting cells of the external median eminence of the hypothalamus and specific cells of the GI tract. Rabbit anti Human Substance P antibody also stains neuronal structures.

Histology Positive Control Tissue Appendix

- References**
1. Cheng, C. *et al.* (2010) Dynamic Plasticity of Axons within a Cutaneous Milieu. [J. Neurosci. 30: 14735-44.](#)
 2. Nguyen, J. *et al.* (2014) Morphine stimulates cancer progression and mast cell activation and impairs survival in transgenic mice with breast cancer. [Br J Anaesth. pii: aeu090.](#)
 3. Jouml;nsson, M. *et al.* (2005) Substance P and the neurokinin-1 receptor in relation to eosinophilia in ulcerative colitis. [Peptides. 26: 799-814.](#)
 4. Bjur, D. *et al.* (2005) The innervation pattern of the human Achilles tendon: studies of the normal and tendinosis tendon with markers for general and sensory innervation. [Cell Tissue Res. 320: 201-6.](#)
 5. Andersson, G. *et al.* (2007) Nerve-related characteristics of ventral paratendinous tissue in chronic Achilles tendinosis. [Knee Surg Sports Traumatol Arthrosc. 15: 1272-9.](#)
 6. Danielson, P. *et al.* (2006) Distribution of general (PGP 9.5) and sensory (substance P/CGRP) innervations in the human patellar tendon. [Knee Surg Sports Traumatol Arthrosc. 14: 125-32.](#)
 7. Grimsholm, O. *et al.* (2008) Observations favouring the occurrence of local production and marked effects of bombesin/gastrin-releasing peptide in the synovial tissue of the human knee joint – Comparisons with substance P and the NK-1 receptor. [Neuropeptides. 42: 133-45.](#)
 8. Grimsholm, O. *et al.* (2007) Are neuropeptides important in arthritis? Studies on the importance of bombesin/GRP and substance P in a murine arthritis model. [Ann N Y Acad Sci. 1110: 525-38.](#)
 9. Danielson, P. *et al.* (2008) Marked sympathetic component in the perivascular innervation of the dorsal paratendinous tissue of the patellar tendon in arthroscopically treated tendinosis patients. [Knee Surg Sports Traumatol Arthrosc. 16: 621-6.](#)
 10. Backman, L.J. *et al.* (2011) Substance P is a mechanoresponsive, autocrine regulator of human tenocyte proliferation. [PLoS One. 6: e27209.](#)
 11. Danielson, P. *et al.* (2007) Studies on the importance of sympathetic innervation, adrenergic receptors, and a possible local catecholamine production in the development of patellar tendinopathy (tendinosis) in man. [Microsc Res Tech. 70: 310-24.](#)
 12. Mousavizadeh, R. *et al.* (2014) Dexamethasone decreases substance P expression in human tendon cells: an *in vitro* study. [Rheumatology \(Oxford\). pii: keu315.](#)
 13. Pinto, F.M. *et al.* (2015) Analysis of the Expression of Tachykinins and Tachykinin Receptors in the Rat Uterus During Early Pregnancy. [Biol Reprod. pii: biolreprod.115.130617.](#)
 14. González-Santana, A. *et al.* (2016) Altered expression of the tachykinins substance P/neurokinin A/hemokinin-1 and their preferred neurokinin 1/neurokinin 2 receptors in uterine

leiomyomata. [Fertil Steril. 106 \(6\): 1521-9.](#)

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| Storage | Store at +4°C or at -20°C if preferred. Storage in frost-free freezers is not recommended. This product should be stored undiluted. Avoid repeated freezing and thawing as this may denature the antibody. |
| Shelf Life | 18 months from date of despatch. |
| Health And Safety Information | Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf |
| Regulatory | For research purposes only |

Related Products

Recommended Secondary Antibodies

Sheep Anti Rabbit IgG (STAR34...) [FITC](#)
Sheep Anti Rabbit IgG (STAR35...) [RPE](#)
Goat Anti Rabbit IgG (H/L) (STAR124...) [HRP](#)
Goat Anti Rabbit IgG (Fc) (STAR121...) [Biotin](#), [FITC](#), [HRP](#)
Sheep Anti Rabbit IgG (2AB02...) [Biotin](#)
Sheep Anti Rabbit IgG (STAR36...) [DyLight@488](#), [DyLight@549](#), [DyLight@649](#),
[DyLight@680](#), [DyLight@800](#)

Recommended Useful Reagents

[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025A\)](#)
[ANTIGEN RETRIEVAL BUFFER, pH8.0 \(BUF025C\)](#)

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| North & South America | Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com | Worldwide | Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com | Europe | Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com |
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