

Datasheet: AHP373

| Description: | RABBIT ANTI DYNORPHIN A (aa1-17) | | |
|----------------------|----------------------------------|--|--|
| Specificity: | DYNORPHIN A (aa1-17) | | |
| Format: | Serum | | |
| Product Type: | Polyclonal Antibody | | |
| Isotype: | Polyclonal IgG | | |
| Quantity: | 0.1 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 |
|--------------------------------|-----|----|----------------|---------------------------|
| Flow Cytometry | | | • | |
| Immunohistology - Frozen | • | | | 1/100 - 1/1500 |
| Immunohistology - Paraffin (1) | • | | | |
| ELISA | | | | |
| Immunoprecipitation | | | • | |
| Western Blotting | | | • | |
| Radioimmunoassays | | | | 1/10,000 |

Where this antibody 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 antibody for use in their own system using 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.

Overnight incubation is recommended for paraffin sections.

| Target Species | Pig |
|-----------------------------|---|
| Species Cross Reactivity | Reacts with: Rat, Rhesus Monkey, Human N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. |
| Product Form | Serum - liquid |

Antiserum Preparation Antisera to Dynorphin A 1-17 were raised by repeated immunisation of rabbits with highly purified antigen. Whole serum is supplied - diluted.

| Buffer Solution | Phosphate buffered saline | | |
|-----------------------------|---|--|--|
| Preservative Stabilisers | 0.09% Sodium Azide 0.1% Bovine Serum Albumin | | |
| Immunogen | Dynorphin A 1-17: Tyr-Gly-Gly-Phe-Leu-Arg-Arg-Ile-Arg-Pro-Lys-Leu-Lys-Trp-Asp-Asn-Gln (porcine) | | |
| External Database Links | UniProt: P01213 Related reagents | | |
| | Entrez Gene: <u>5173</u> PDYN Related reagents | | |

RRID

AB_322028

Specificity

Rabbit anti dynorphin A antibody recognizes the opioid peptide dynorphin A (Fischli et al. 1982), a cleavage product of big dynorphin, itself derived from the precursor pro-encephalin-B, also known as preprodynorphin. Rabbit anti dynorphin A antibody binds to both dynorphin A 1-17 and 1-8 but not with other big dynorphin cleavage products such as dynorphin B, also known as rimorphin.

Dynorphin A immunoreactive cells are found in the paraventricular and supraoptic nucleus and in hippocampal mossy fibers of rat brain following kainic acid administration and colchicine induced neurotoxicity (McGinty et al. 1983). Dynorphins play a role in multiple physiologic processes including pain perception (Wang et al. 2001) and responses to stress (Rácz et al. 2013). They mimic and compete with a number of opiate drugs(Chavkin 2013). Dysregulation of dynorphin A expression has been linked to progression of neurodegenerative conditions such as Altzheimer's disease (Yakovleva et al. 2007) and appears to play a significant role in the pathobiology of epilepsy (Loacker et al. 2007).

Rabbit anti dynorphin antibody has been used successfully for the immunohistochemical demonstration of 'mossy fibre' sprouting in hippocampal sclerosis (<u>Thom et al. 2009</u>) and in a virally induced disease model in the rat (<u>Solbrig et al. 2006</u>).

References

- 1. Khachaturian, H. *et al.* (1985) Prodynorphin peptide immunocytochemistry in rhesus monkey brain. <u>Peptides. 6 Suppl 2: 155-66.</u>
- 2. Sherman, T.G. *et al.* (1988) Regulation of hypothalamic magnocellular neuropeptides and their mRNAs in the Brattleboro rat: coordinate responses to further osmotic challenge. <u>J Neurosci. 8 (10): 3785-96.</u>
- 3. Zardetto-smith, A.M. *et al.* (1988) Lateral hypothalamic dynorphinergic efferents to the amygdala and brainstem in the rat. <u>Peptides. 9 (5): 1121-7.</u>
- 4. Beck, H. et al. (2000) Synaptic plasticity in the human dentate gyrus. J Neurosci. 20

(18): 7080-6.

- 5. Thom, M. *et al.* (2009) Bilateral reorganization of the dentate gyrus in hippocampal sclerosis: a postmortem study. <u>Neurology. 73: 1033-40.</u>
- 6. Solbrig, M.V. *et al.* (2006) Kappa opioid control of seizures produced by a virus in an animal model. Brain. 129: 642-54.
- 7. Jeub, M. *et al.* (1999) Loss of dynorphin-mediated inhibition of voltage-dependent Ca2+ currents in hippocampal granule cells isolated from epilepsy patients is associated with mossy fiber sprouting. Neuroscience. 94: 465-71.
- 8. Knapp, P.E. *et al.* (2001) Endogenous opioids and oligodendroglial function: possible autocrine/paracrine effects on cell survival and development. Glia. 35: 156-65.
- 9. Dougherty, K.J. *et al.* (2009) Phenotypic Diversity and Expression of GABAergic Inhibitory Interneurons During Postnatal Development in Lumbar Spinal Cord of GAD67-GFP Mice. Neuroscience. 163: 909-19.
- 10. Solbrig, M.V. *et al.* (2006) Viral risk factor for seizures: pathobiology of dynorphin in herpes simplex viral (HSV-1) seizures in an animal model. <u>Neurobiol Dis. 23 (3): 612-20.</u>
- 11. Martinian, L. *et al.* (2012) Calbindin D28K expression in relation to granule cell dispersion, mossy fibre sprouting and memory impairment in hippocampal sclerosis: a surgical and post mortem series. <u>Epilepsy Res. 98 (1): 14-24.</u>
- 12. Thom, M. *et al.* (2008) Balloon cells associated with granule cell dispersion in the dentate gyrus in hippocampal sclerosis. <u>Acta Neuropathol. 115 (6): 697-700.</u>
- 13. Novy, J. *et al.* (2013) The lifelong course of chronic epilepsy: the Chalfont experience. Brain. 136 (Pt 10): 3187-99.
- 14. Bandopadhyay, R. *et al.* (2014) A comparative study of the dentate gyrus in hippocampal sclerosis in epilepsy and dementia. <u>Neuropathol Appl Neurobiol. 40 (2):</u> 177-90.
- 15. Shoham, S. *et al.* (2000) Diet Restriction Increases Enkephalin- and Dynorphin-like Immunoreactivity in Rat Brain and Attenuates Long-term Retention of Passive Avoidance. Nutr Neurosci. 3 (1): 41-55.

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

| Guarantee | 12 months from date of despatch |
|----------------------------------|--|
| Health And Safety Information | Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/AHP373 10041 |
| Regulatory | For research purposes only |

Related Products

Recommended Secondary Antibodies

Goat Anti Rabbit IgG (H/L) (STAR124...) <u>HRP</u>
Sheep Anti Rabbit IgG (STAR35...) <u>RPE</u>
Goat Anti Rabbit IgG (Fc) (STAR121...) <u>Biotin</u>, <u>FITC</u>, <u>HRP</u>

 North & South
 Tel: +1 800 265 7376
 Worldwide
 Tel: +44 (0)1865 852 700
 Europe
 Tel: +49 (0) 89 8090 95 21

 America
 Fax: +1 919 878 3751
 Fax: +44 (0)1865 852 739
 Fax: +49 (0) 89 8090 95 50

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets 'M437990:250320'

Printed on 20 Mar 2025

© 2025 Bio-Rad Laboratories Inc | Legal | Imprint