

OPN5 Antibody / Opsin 5 / Neuropsin (FY12752)

Catalog No.	Formulation	Size
FY12752	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q6U736
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This OPN5 antibody is available for research use only.

Description

OPN5 antibody detects Opsin-5 (also known as Neuropsin or G protein-coupled receptor 136), a light-sensitive G protein-coupled receptor involved in non-visual photoreception. Encoded by the OPN5 gene on chromosome 6p12.3, this protein belongs to the opsin family of photoreceptive GPCRs that use retinaldehyde chromophores to detect light. Opsin-5 absorbs near-ultraviolet light and activates intracellular signaling via inhibitory G proteins (Gi/Go), modulating circadian rhythms and neuroendocrine responses independent of classical retinal photoreceptors.

OPN5 is expressed in brain regions such as the hypothalamus and preoptic area, as well as in peripheral tissues including retina, cornea, skin, and reproductive organs. It functions as a UV-sensitive photoreceptor regulating local circadian oscillators and hormone secretion. In the eye, OPN5 contributes to light entrainment of retinal and non-retinal cells, while in the skin and reproductive tissues, it influences seasonal and environmental light-dependent physiology. The receptor's activation triggers G protein signaling that modulates cyclic AMP levels, gene expression, and ion channel activity.

The OPN5 antibody is a valuable tool for neurobiology, circadian rhythm, and sensory physiology research. Western blot analysis detects a 40 kilodalton band corresponding to Opsin-5, while immunofluorescence and immunohistochemistry

reveal membrane localization in neuronal and epithelial tissues. This antibody supports the study of light-dependent signaling outside the visual system and enables mapping of Opsin-5 expression across tissues.

Dysregulation of OPN5 signaling has been linked to altered circadian rhythms, hormonal imbalances, and impaired photic entrainment. In animal models, OPN5 influences melatonin secretion and reproductive seasonality, connecting environmental lighting cues to endocrine function. The OPN5 antibody facilitates the exploration of these mechanisms by providing specific detection of Opsin-5 in experimental systems. NSJ Bioreagents offers this antibody validated for western blotting, immunofluorescence, and immunohistochemistry, ensuring consistent and high-quality performance for light-sensing and circadian biology research.

Application Notes

Optimal dilution of the OPN5 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human OPN5 was used as the immunogen for the OPN5 antibody.

Storage

After reconstitution, the OPN5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.