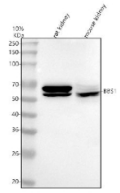
BBS1 Antibody / Bardet-Biedl syndrome 1 (FY12400)

Catalog No.	Formulation	Size
FY12400	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
Host	Rabbit
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	Q8NFJ9
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This BBS1 antibody is available for research use only.



Western blot analysis of BBS1 using anti-BBS1 antibody. Lane 1: rat kidney tissue lysates, Lane 2: mouse kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-BBS1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. BBS1 (~65 kDa predicted) was detected as bands at ~65 kDa and ~55 kDa. The higher band corresponds to the full-length, post-translationally modified BBSome-associated form, while the lower band likely represents a dephosphorylated or partially processed variant, consistent with published reports.

Description

The BBS1 antibody targets Bardet-Biedl syndrome 1 protein, a centrosomal and ciliary component encoded by the BBS1 gene. This protein is a core subunit of the BBSome, a multimeric complex required for the trafficking of membrane proteins to and from primary cilia. Bardet-Biedl syndrome 1 protein plays a crucial role in ciliary signaling, cell polarity, and

sensory perception. The BBS1 antibody provides a key reagent for studying cilia function, intracellular transport, and ciliopathies associated with BBSome dysfunction.

The BBSome complex, composed of at least eight core proteins including BBS1, BBS2, BBS4, and BBS7, mediates cargo recognition and vesicular transport along the ciliary membrane. Bardet-Biedl syndrome 1 protein acts as a structural hub that anchors the complex to the basal body and interacts with small GTPases such as ARL6. The BBS1 antibody allows visualization of this component in centrosomes and cilia, supporting studies into how BBSome assembly regulates signaling receptor localization and function.

Mutations in BBS1 are the most common cause of Bardet-Biedl syndrome, a pleiotropic ciliopathy characterized by retinal degeneration, obesity, renal anomalies, and polydactyly. These mutations impair BBSome stability and disrupt ciliary transport of G-protein-coupled receptors (GPCRs). The BBS1 antibody supports functional research into these mechanisms by enabling analysis of protein expression, localization, and complex formation in patient cells and model organisms. It is a critical tool for defining how ciliary trafficking defects lead to multisystemic disease manifestations.

Beyond ciliopathy research, Bardet-Biedl syndrome 1 protein has been implicated in metabolic regulation, immune signaling, and neural development. The BBS1 antibody supports studies exploring these expanded roles, including how BBSome components modulate leptin receptor and Hedgehog signaling pathways. Dysregulation of ciliary protein transport impacts sensory and hormonal signaling, linking BBS1 to diverse physiological processes.

The BBS1 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, revealing punctate centrosomal and ciliary staining patterns. NSJ Bioreagents provides this antibody with validated specificity for reproducible detection across mammalian models. By enabling precise analysis of Bardet-Biedl syndrome 1 protein, the BBS1 antibody supports ongoing research into ciliary trafficking, BBSome structure, and the molecular basis of human ciliopathies.

Application Notes

Optimal dilution of the BBS1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ATF5 recombinant protein (Position: L11-R275) was used as the immunogen for the BBS1 antibody.

Storage

After reconstitution, the BBS1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.