



## Polyclonal Antibody That Recognizes the Sulfonylurea Receptor 1 Isoform

**WARF: P07041US**

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**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing antibodies that specifically recognize sulfonylurea receptor isoforms and splice variants.**

### Overview

Sulfonylurea receptors (SURs) regulate the opening and closing of ATP-sensitive potassium channels ( $K_{ATP}$ ). They play important roles in insulin secretion in the pancreas and myocardial protection in the heart. At least two isoforms of SUR exist, and the mRNA from each isoform can be spliced in different ways to result in further variants of SUR. The SUR1 isoform encodes the high-affinity sulfonylurea receptor, which is found in pancreatic beta-cells, while the SUR2 isoform encodes the low-affinity sulfonylurea receptor, which is mainly present in mitochondria-rich cardiac, smooth and skeletal muscles.

Antibodies would be a useful tool to further investigate SURs. However, commercially available antibodies do not distinguish between SUR variants. Additionally, available antibodies yield variable results and have not been rigorously tested for specificity.

### The Invention

UW-Madison researchers have developed an antibody, known as BNJ1, that specifically recognizes SUR1. It can be used in combination with other antibodies developed by the inventors (see WARF reference numbers P08021US, P08022US, P08023US and P08024US) to distinguish SUR isoforms and splice variants.

### Applications

- Provides a useful tool for further investigating SURs

### Key Benefits

- Tested for specificity in mouse heart, brain and liver cells, as well as dog and human heart cells
- Affinity purified

### Stage of Development

This antibody was successfully tested against stable cell lines expressing  $K_{ATP}$  channels.

### Additional Information

#### For More Information About the Inventors

- [Jonathan Makielski](#)

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- [See WARF reference number P08021US for an antibody, known as BNJ2, that specifically recognizes SUR2.](#)
- [See WARF reference number P08022US for an antibody, known as BNJU, that recognizes both SUR1 and SUR2.](#)



- [See WARF reference number P08023US for an antibody, known as BNJ39, that specifically recognizes SUR2A splice variants with a terminal exon 38A.](#)
- [See WARF reference number P08024US for an antibody, known as BNJ40, that specifically recognizes SUR2B splice variants with a terminal exon 38B.](#)

#### Tech Fields

- [Research Tools : Antibodies](#)

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