

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human AgRP/ART in direct ELISAs and Western blots. In Western blots, approximately 40% cross-reactivity with recombinant mouse AgRP/ART is observed.                                                                                                                |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human AgRP/ART<br>Ala21-Thr132<br>Accession # O00253                                                                                                                                                |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

|                             |                                                                        |
|-----------------------------|------------------------------------------------------------------------|
| <b>Western Blot</b>         | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</b> | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## BACKGROUND

Agouti-Related Protein (AgRP), the protein product of the Agouti-Related Transcript (ART), is a neuropeptide that regulates energy metabolism and the development of obesity by antagonizing  $\alpha$ -melanocyte stimulating hormone ( $\alpha$ -MSH) on MC-3 and MC-4 receptors (1 - 4). AgRP is predominantly expressed in the hypothalamus and adrenal medulla (5). Mature human AgRP is a 112 amino acid (aa) peptide; its C-terminal portion contains ten conserved cysteines that form five disulfide bonds (5, 6). Human AgRP shares 82% and 72% aa sequence identity with mouse and rat AgRP, respectively. It shares 32% aa sequence identity with Agouti. As in the case of Agouti, the C-terminal cysteine-rich region is sufficient for biological activity (7). AgRP is 100 times more potent than Agouti in antagonizing MC-3 and MC-4 receptors (8). AgRP also induces the  $\beta$ -arrestin dependent endocytosis of MC-3 and MC-4 (9). Hypothalamic expression of AgRP is upregulated in obesity and diabetes (5, 10), and chronic AgRP administration increases food intake and weight gain in rats (11). Genetically-linked polymorphisms of AgRP in humans are associated with susceptibility to anorexia nervosa (12, 13). In addition, AgRP inhibits the ACTH-induced synthesis of steroid hormones in a mechanism that does not involve melanocortin receptors (14).

## PRODUCT SPECIFIC NOTICES

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