

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Gas1 in ELISAs and Western blots. In ELISAs, this antibody does not cross-react with recombinant mouse (rm) Gas1, recombinant human (rh) Gas6, rhArtemin, rhNeurturin, rhRet, or rhShh N-terminal domain. In Western blots, this antibody does not
Source	Monoclonal Rat IgG _{2A} Clone # 309325
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Gas1 Leu40-Ser318 Accession # P54826
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

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

BACKGROUND

Gas1 (Growth Arrest Specific 1) is one of six structurally unrelated proteins that were identified by their increased expression in growth-arrested cells relative to actively proliferating cells (1, 2). Following mitogenic stimulation, Gas1 expression is transcriptionally suppressed by c-Myc as cells transit from G₀ to G₁ phases of the cell cycle (3, 4). Overexpression of Gas1 prevents S phase entry and DNA synthesis (5). Gas1-mediated blockade of the cell cycle is p53-dependent but does not require the transactivating domain of p53 (6). The human Gas1 cDNA encodes a 345 amino acid (aa) precursor that includes a 39 aa signal sequence, a 279 aa mature protein, and a 27 aa C-terminal propeptide. Gas1 contains Ala-rich and Asp-rich regions as well as an RGD sequence (5). Mature human and mouse Gas1 share 85% aa sequence identity. Human Gas1 is a 40 kDa GPI-linked glycoprotein that is uniformly distributed on the cell surface (7). In contact-inhibited vascular endothelial cells, Gas1 is induced by VE-Cadherin and VEGF expression and mediates the anti-apoptotic effect of VEGF (8). In contrast, Gas1 is induced in hippocampal neurons after NMDA exposure but functions as a pro-apoptotic effector of NMDA-mediated excitotoxicity (9). Gas1 exhibits a range of developmental actions including either promoting or inhibiting growth and differentiation of somite, limb, cerebellar, and eye tissues (10 - 14). Gas1 contributes to the antagonistic effect of Wnt proteins toward Shh function by binding the N-terminal region of Shh (11). The dependence of Gas1 function on the cellular context has been addressed by suggesting that Gas1 could function as a co-receptor for GDNF family ligands (15). This speculation is supported by R&D Systems data which demonstrate direct binding of Gas1 to Artemin and Neurturin.

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