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GEM Rabbit pAb

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Catalog # AP55136

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P55040
Reactivity	Human
Predicted	Mouse, Rat, Dog, Pig, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	33949
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GEM
Epitope Specificity	201-296/296
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Peripheral membrane protein; Cytoplasmic side.
SIMILARITY	Belongs to the small GTPase superfamily. RGK family.
SUBUNIT	Interacts with calmodulin in a Ca(2+)-dependent manner. Binds ROCK1.
Post-translational modifications	Phosphorylated on tyrosine residues.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Gem belongs to the Rad/Gem/Kir (RGK) subfamily of Ras-related GTPases, which lack typical C-terminal amino acid motifs for isoprenylation. Rad and Gem bind calmodulin in a Ca2+-dependent manner via this C-terminal extension, involving residues 278–297 in human Rad. High intracellular Gem levels, which interact with intact microtubules and microfilaments, promote profound changes in cell morphology. Ectopic Gem expression is sufficient to stimulate cell flattening and neurite extension in N1E-115 and SH-SY5Y neuroblastoma cells, suggesting a role for Gem in cytoskeletal rearrangement and/or morphological differentiation of neurons. Gem was also observed in developing trigeminal nerve ganglia in 12.5 day mouse embryos, demonstrating that Gem expression is a property of normal ganglionic development. The interaction of Gem with beta-subunits regulates Ca2+ channel expression at the cell surface. The human Gem gene maps to chromosome 8q22.1.

Additional Information

Gene ID	2669
Other Names	GTP-binding protein GEM, GTP-binding mitogen-induced T-cell protein, RAS-like protein KIR, GEM, KIR

Target/Specificity	Most abundant in thymus, spleen, kidney, lung, and testis. Less abundant in heart, brain, liver and skeletal muscle.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

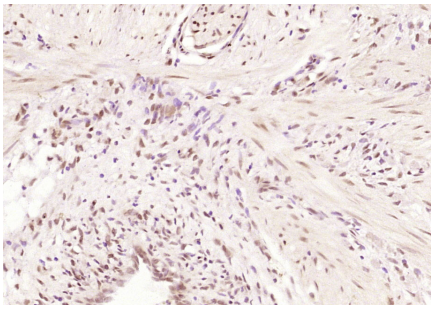
Protein Information

Name	GEM
Synonyms	KIR
Function	Could be a regulatory protein, possibly participating in receptor-mediated signal transduction at the plasma membrane. Has guanine nucleotide-binding activity but undetectable intrinsic GTPase activity.
Cellular Location	Cell membrane; Peripheral membrane protein; Cytoplasmic side
Tissue Location	Most abundant in thymus, spleen, kidney, lung, and testis. Less abundant in heart, brain, liver and skeletal muscle

Background

Gem belongs to the Rad/Gem/Kir (RGK) subfamily of Ras-related GTPases, which lack typical C-terminal amino acid motifs for isoprenylation. Rad and Gem bind calmodulin in a Ca2+-dependent manner via this C-terminal extension, involving residues 278–297 in human Rad. High intracellular Gem levels, which interact with intact microtubules and microfilaments, promote profound changes in cell morphology. Ectopic Gem expression is sufficient to stimulate cell flattening and neurite extension in N1E-115 and SH-SY5Y neuroblastoma cells, suggesting a role for Gem in cytoskeletal rearrangement and/or morphological differentiation of neurons. Gem was also observed in developing trigeminal nerve ganglia in 12.5 day mouse embryos, demonstrating that Gem expression is a property of normal ganglionic development. The interaction of Gem with beta-subunits regulates Ca2+ channel expression at the cell surface. The human Gem gene maps to chromosome 8q22.1.

Images



Paraformaldehyde-fixed, paraffin embedded (human gastric carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (GEM) Polyclonal Antibody, Unconjugated (AP55136) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.