ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Life Technologies™ Your Molecular & Cell Technology Partner

Motilin Receptor (MTLR/GPR38) Antibodies

Cat. MTLR11-S Rabbit Anti-Human MTLR antiserum antisera # 1 **SIZE**: **100 ul**

Cat. MTLR11-A Rabbit Anti-Human MTLR IgG # 1(aff pure) **SIZE**: **100 ug**

Cat. MTLR11-P Human MTLR Control/blocking peptide # 1 **SIZE**: **100 ug**

Transport of nutrients through the digestive system is highly dependent on gastrointestinal (GI) motility. GI motility disorders include gastroesophageal reflux disease, gastroparesis (diabetic and post surgical), irritable bowel syndrome, and constipation. **Motilin**, a 22-amino acid peptide hormone that is secreted by enterochromaffin cells of the small intestine, influences gastric motility by inducing interdigestive (phase III) antrum and duodenal contractions. Most recently, an orphan GPCR related to growth hormone secretagogues receptor (GHS-R) has been isolated and characterized from human stomach as the **motilin receptor (MTLR or GPR38**; 52% identity with GHS-R). MTLR is expressed in enteric neurons of the human duodenum and colon.

MTLR/GPR38 (human chromosome 13q14-q21) encodes a protein with all the features of GPCR, including seven predicted TM domains. MTLR is alternatively spliced. **MTLR1A/GPR38-A** is 412 aa and **GPR38-B** is 386-aa with 5 TM domains. MTLR is 52% identical with the recently cloned and characterized GHS-R or Ghrelin receptor. MTLR gene is conserved distantly in evolution. GPR38 is ~54% identical with a related gene (75E7) in the teleost puffer fish Spheroides nephelus which evolved ~400 million years ago. Expression GPR38 was found in human enteric neurons of the human duodenum and colon, thyroid, and bone marrow.

Source of Antigen and Antibodies

Antigen	19-aa peptide from **human MTLR (1)**; **Designation (#MTLR11-P, control or blocking peptide**) conjugated to KLH; **Epitope location**~ C-terminal, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#MTLR11-S) and IgG, purified over antigen-agarose (Cat # MTLR11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified, undiluted)

100 ul/vial solution — 50 ul/vial lyophilized powder

contains 0.05% sodium azide

Reconstitute powder 50 ul or 100 ul PBS

Affinity pure IgG

100 ug/100ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS+0.1% BSA+0.05% azide

Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS pH 7.5, contains 0.05% sodium azide

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested

Specificity & Cross-reactivity

Human MTLR11-P sequence is specific form human MTLR/GPR38. Due to the alternative splicing, GPR38B forms does not contains the MTLR11-P sequence, so the MTLRA11-S antibody will not react with GPR38B form. MTLRs sequences from other species are not yet available. MTLR11-P has no significant homology with GHS-R. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol see detailed protocol at the web site).

General References: (1) Feighner SD et al (1999) Science 284; 2184; McKee KK et al (1997) Genomics 46, 426; Yano H et al (1989) FEBS Lett, 249, 248; Seino Y et al (1987) FEBS Lett. 223, 74; Daikh DI et al (1989) DNA 8, 615; Dean D et al (1989) Gastroenterol. 96, 695;.

*This product is for in vitro research use only.

Some New Antibodies from ADI…

Ghrelin, Neuromedin U, NMUR1/2, Neurotensin & NTR1-3

MTLR11-S-A-P 71212A

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