

Product Specification Sheet

Motilin Antibodies

Cat. MOTL11-S Rabbit Anti-Human Motilin antiserum (Ab # 1)	SIZE: 100 ul
Cat. MOTL11-A Rabbit Anti-Human Motilin Ab # 1 (affinity pure)	SIZE: 100 ug
Cat. MOTL11-P Human Motilin 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)**. The structurally unrelated macrolide antibiotic erythromycin is known to have Motilin-like side effects, including vomiting, nausea, diarrhea, and abdominal muscular discomfort. MTLR is expressed in enteric neurons of the human duodenum and colon. Interestingly, the macrolide antibiotic erythromycin also binds to MTLR, providing a molecular basis for its effects on the human GI tract.

Motilin gene (human chromosome 6p21.2) consists of 5 exons spanning approximately 9 kb of genomic DNA. Exon 1 encodes the 5-prime untranslated portion of the motilin mRNA. Exons 2 and 3 encode the signal peptide and the 22-amino acid motilin peptide. The 22-aa mature motilin peptide is highly conserved across species. The motilin prohormone consists of 115 amino acids and includes a 25-residue N-terminal signal peptide followed by the 22-amino-acid motilin sequence and a long, 68-residue Motilin-related C-terminal peptide. Proteolytic processing of promotilin to motilin occurs at a very unusual and rare "Lys-Lys" sequence. High-affinity binding sites for motilin have been detected in the GI tract of humans and other species and in the central nervous system of rabbits.

Source of Antigen and Antibodies

Antigen	A 14 aa peptide sequence (designated MOTL11-P or control peptide) from the C-terminus of mature human motilin (1)
Ab Host/type	Rabbit, Polyclonal antiserum # MOTL11-S and IgG, purified over antigen-agarose (Cat # MOTL11-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)	100ul solution lyophilized powder
Supplied 0.05% azide, Reconstitute	powder in 100 ul PBS
Affinity pure IgG	100 ug/100ul solution lyophilized powder

Supplied in **Buffer: PBS+0.1% BSA**
Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..
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). Full length motilin is ~3.0 kDa.

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

Histochemistry & Immunofluorescence: Not tested

Specificity & Cross-reactivity

The 14-aa human MOTL11-P sequence is 100% conserved in pig, 92% in equine, monkey, 85% in ovine and rabbit, and 78% in chicken, cat, and dog motilin. Antibody cross-reactivity in various species has not been studied. **Full length motilin** (Cat # MOTL51-P) is also available for various studies. 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) 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; Feighner SD et al (1999) Science 284; 2184; McKee KK et al (1997) Genomics 46, 426.

*This product is for in vitro research use only.

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