Monoclonal Antibody To Human Defensin 1-3
Marker For Human Neutrophils

Monoclonal antibody DEF-3 recognises a family of cyclic peptides in neutrophils. Four of these peptides are described in humans (HNP-1 to 4), six in rabbits (NP-1 to 5). Synonyms are MCP-1 for NP-1, MCP-2 for NP-2 and corticostatin for NP-3. The function of these peptides apart from their bactericidal, antifungal, and monocyte chemotactic functions is the inhibition of ACTH-induced corticosteroid synthesis. DEF-3 is an important marker for inflammation typing, and for staining mature neutrophils in immunohistochemistry.

Product Number: T-1034
Clone: DEF-3
Host species, isotype: Mouse IgG1
Quantity: 100μg
Format: Affinity purified, lyophilized

Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.2mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.09% sodium azide as a preservative.

Stability: Original vial: 1 year at 4° - 8°C
Stock solution or aliquots thereof: 1 year at -20°C. Avoid repeated thawing and freezing.

Applications: Tested for immunohistochemistry (IHC); has been described to work in FACS with permeabilized cells.

Approximate working dilution for IHC:
Frozen sections: 0.2μg/ml (1:1000)
Paraffin sections: 0.5μg/ml (1:400); Proteinase K pretreatment for antigen retrieval is recommended.

Optimal dilutions should be determined by the end user.

Suggested positive control: Human tonsil.

Immunogen: Native defensins.
Antigen, epitope: Several defensins are recognized, the epitope has not been further characterized.
Biological functions: Various functions have been described for defensins. They are antibacterial, antifungal, chemotactic for monocytes, inhibitory for ACTH-induced corticosteroid synthesis and cytotoxic for cells. Defensins are inhibited by glucosaminoglycans (self protection for cells) and high concentrations of Ca^{2+} ions.

Biochemistry: Defensins are a group of cyclic peptides containing 29-35 amino acids (MW < 3500) which tend to form aggregates. The molecules are protease resistant. The defensin content of azurophilic granules in neutrophils is approximately 30% of the total protein.

Specificity: Human: Defensin 1-3 (HNP-1 to HNP-3) in human neutrophils. Synthetic defensin-1 and -2 (Bachem, Bubendorf CH) stain also positively. Not tested with Defensin-4. A side reaction to elastin has been observed in humans.

Other: not tested. Defensins have been described in rabbits (NP-1 to NP-5, NP3a = Corticostatin), and in mice (cryptodin).

Selected references


For in vitro research only. Caution: this product contains sodium azide, a poisonous and hazardous substance.