



**BMA BIOMEDICALS**

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## **Monoclonal Antibody to Porcine Hemoglobin beta** **Marker for the adult hemoglobin beta subunit; UniProt: P02067**

Monoclonal antibody PLA114 is specifically directed against the porcine hemoglobin beta subunit. Hemoglobin contains four subunits, of which two are identical. They form the  $\alpha_2\beta_2$  scaffold that holds the iron-containing heme group which is responsible for oxygen transport by red blood cells. Each subunit has a molecular weight of about 16kDa.

In humans, the beta-globin gene is activated around the time of birth, replacing embryonic and fetal globin genes. In humans, mutations in the adult  $\beta$ -globin gene cause  $\beta$ -thalassemia and sickle cell disease (SCD).  $\beta$ -Thalassemia results from a reduced production of  $\beta$ -globin while SCD is caused by a mutation that results in an amino acid substitution of adult  $\beta$ -globin. Hemoglobin tetramers bearing this mutation polymerize inside red blood cells and distort them into a characteristic crescent-shaped appearance. These rigid sickle cells are more prone to lysis and tend to occlude blood flow in the microvasculature, causing severe physiological problems.

*This antibody was produced serum-free, without fetal calf serum.*

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**Product number: T-3523**

**Clone: PLA114**

**Lot: 01PO1518**

### **TECHNICAL AND ANALYTICAL CHARACTERISTICS:**

**Host species, isotype:** Mouse IgG1, kappa

**Quantity:** 0.2mg

**Format:** Affinity purified from cell culture supernatant, lyophilized.  
Reconstitute by adding 0.5ml distilled water. This stock solution contains 0.4mg/ml IgG, phosphate buffered saline pH 7.2 (PBS), 5mg/ml bovine serum albumin (BSA) as a stabilizer and 0.05% (v/v) Kathon CG as a preservative.

**Stability:** Original vial: 1 year at 4° - 8°C. Avoid repeated thawing and freezing of the reconstituted antibody.

**Applications:** Tested for immunohistochemistry (IHC) and Western Blot, other applications not yet tested.

**Approximate working dilutions:**

IHC, frozen sections: 0.2 $\mu$ g/ml (1:2000)

IHC, paraffin sections: 10 $\mu$ g/ml (1:40)

Western Blot: 0.25 $\mu$ g/ml (1:2000)

Optimal dilutions should be determined by the end user.

Please see [www.bma.ch](http://www.bma.ch) for protocols and general information.

**Immunogen:**

Porcine liver extract.

**Antigen, epitope:**

Immunoprecipitation and subsequent identification by nanoLC-ESI-MS/MS identified the antigen as hemoglobin beta chain. The epitope has not been further characterized.

**Antigen distribution:**

**Tissue sections:** In paraffin sections the antibody stains all erythrocytes whereas in frozen sections the antibody yields a picture typical of a molecule leaking out of blood vessels and diffusing into surrounding tissue.

**Specificity:**

**Pig:** Erythrocytes, plasma

**Other species:** not tested

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This product contains Kathon as a preservative and is intended for *in vitro* laboratory use and research purposes only. Purchase of this product does not include authorization to reverse engineer any part thereof, nor to use it in diagnostic or therapeutic applications.

T-3523

PLA114

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