Mouse Monoclonal Antibody (CAL2) Against All *CALRETICULIN* (*CALR*) Mutations

Product Information

Catalog No.: **DIA-CAL-250** (250µl, lyophilised)
DIA-CAL-100 (100µl, liquid)

Clone: CAL2

Isotype: Mouse IgG2a

Immunogen: C-neoterminus of mutated CALR.

Specificity: Human CALR protein expressed by all types of Exon 9 *CALR* mutations (deletion/insertion in 19p 13.3-13.2 of)

Application: Immunohistochemistry (IHC) for formalin-fixed paraffin-embedded (FFPE) tissue with or without EDTA-decalcification
Other fixatives (e.g. B5, Bouin) not tested.

Physical state: Lyophilized powder

Reagent provided: Antibody purified from culture supernatant in PBS with 2% BSA, 0.05% NaN3, pH 7.4.

Storage and stability: Store reconstituited liquid for several weeks at 2-8 °C.
For long term storage freeze at -20°C or -80°C.
Stable for at least one year at -20°C.
Avoid repeated freeze/thaw cycles.

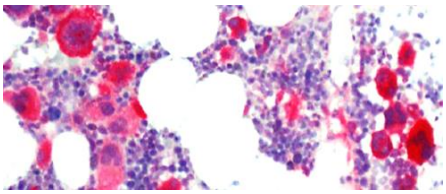
Instructions for use: Reconstitute DIA-CAL-250 with 250 µl sterile distilled water followed by gentle shaking for 10 minutes. Pre-treat the deparaffinized sections with the heat induced epitope retrieval (HIER) technique; recommended is to heat the sections in citrate buffer pH 6.0 in a pressure cooker for 10 minutes. Other HIER techniques are also applicable. The sections treated by HIER can be processed by all standard IHC protocols. The CAL2 antibody IHC is suited for using automated platforms.

Dilution: Apply CAL2 at a dilution of 1:20-1:40 for IHC.

General recommendation: Validation of antibody performance/protocol is the responsibility of the end user. Positive/negative controls should be run simultaneously with tissue specimen.

Practical implementation: CAL2 labels the megakaryocytes in myeloproliferative neoplasms (essential thrombocythaemia (ET) and primary myelofibrosis (PMF)) with CALR mutation and enables to distinguish ET and PMF with CALR mutation from polycythemia vera (PV), from CALR mutation negative ET and PMF and from reactive bone marrow.

Staining pattern: Cytoplasmic staining of megakaryocytes harboring *CALR* mutation. The CAL2 IHC assay indicates absence of *CALR* mutation when all megakaryocytes remain unlabeled.



Positive control: Megakaryocytes from *CALR* mutated PMNs

Negative control: Megakaryocytes of reactive bone marrow specimens or *JAK2* mutated PV

Safety notes: The reconstituted liquid contains 0.05% sodium azide as a preservative. Avoid skin and eye contact, inhalation and ingestion.

References:

1.
Mózes R et al. Calreticulin mutation specific CAL2 immunohistochemistry accurately identifies rare calreticulin mutations in myeloproliferative neoplasms. *Pathology*, 2018, doi: 10.1016/j.pathol.2018.11.007
2.
Andrici J et al. Mutation specific immuno-histochemistry is highly specific for the presence of calreticulin mutations in myeloproliferative neoplasms. *Pathology* 484: 319-24, 2016.
3.
Nomani L et al. CAL2 Immunohistochemical Staining Accurately Identifies CALR Mutations in Myeloproliferative Neoplasms. *Am J Clin Pathol.* 1464: 431-438, 2016.
4.
Stein, H et al. A new monoclonal antibody (CAL2) detects CALRETICULIN mutations in formalin-fixed and paraffin embedded bone marrow sections. *Leukemia* 301: 131-135. 2015.
5.
Nangalia J et al. Somatic CALR Mutations in Myeloproliferative Neoplasms with Nonmutated JAK2. *N Engl J Med* 369(25): 2391-2405, 2013
6.
Klampfl T et al. Somatic Mutations of Calreticulin in Myeloproliferative Neoplasms. *N Engl J Med* 369(25): 2379-2390, 2013.

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