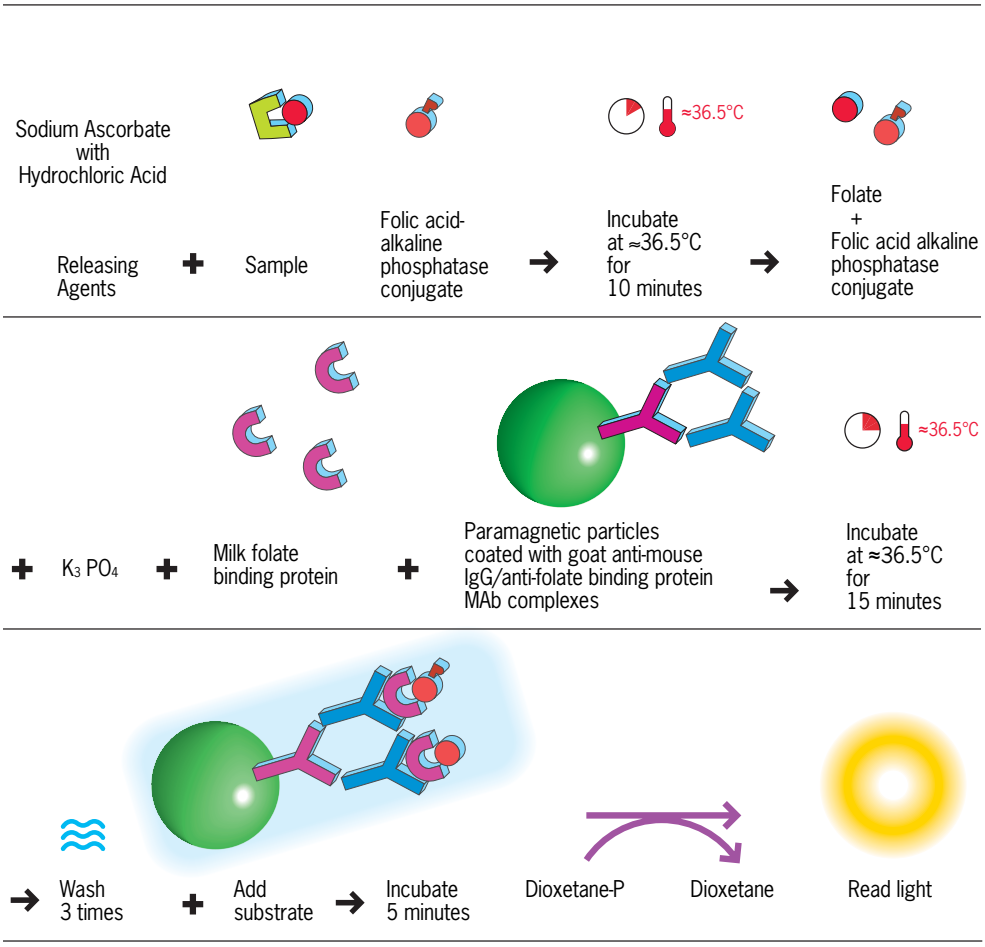
# Folate (with RBC Folate application)

Anemia

- One kit performs folate and red blood cell folate applications
- Convenient
  – ready-to-use
  – automated pretreatment of serum or hemolysate samples
- Calibration stability: 28 days
  – one calibration curve for both serum and RBC applications
- Folate calibrators traceable to USP
- RBC Folate recovers WHO 1st International Standard 1996, 95/528 target value

**2 step competitive binding technique**




**Signal produced is inversely proportional to the folate concentration in the sample**

BECKMAN COULTER®

Anemia

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## Summary and Explanation

Folate is essential to normal cell growth and DNA synthesis. It is present in a variety of foods such as dark, leafy vegetables, citrus fruits, yeast, beans, eggs and milk. It is absorbed by the small intestine and stored in the liver. Folate deficiency can be caused by insufficient dietary intake, malabsorption or excessive folate utilization. Folate status can be assessed by measuring levels in serum and red blood cells. Serum folate is an indicator of recent folate intake; red blood cell (RBC) folate is a good indicator of long-term folate stores.

Folate and vitamin $B_{12}$ are linked by the reaction pathway for methionine synthesis. A deficiency in either leads to a disruption of this pathway and to similar clinical symptoms. Because they have a common metabolic pathway, a $B_{12}$ deficiency also can disrupt the uptake of folate into red blood cells, leading to a low RBC folate value even with adequate folate intake. It is often necessary to measure both vitamins in a clinical workup to determine the real culprit; treatment depends on which vitamin is deficient.

### Method Comparison

Comparison of paired serum and plasma (heparin) results generated with the reformulated Access Folate assay (Cat. No. A14208) gives the following statistical data:

| n | Range of Observations (ng/mL) | Intercept (ng/mL) | Slope | r |
|---|---|---|---|---|
| 21 | 6.71 – 18.96 (15.20 – 42.96 nmol/L) | 0.472 (1.07 nmol/L) | 0.955 | 0.981 |

## Characteristics

| | |
|---|---|
| Sample Type/Size | Serum, heparinized plasma or whole blood/55 µL |
| Time to First Result | 35 minutes |
| Analytical Sensitivity | 0.5 ng/mL (1.13 nmol/L) |
| Calibrator Levels | 0, approximately 1.0, 2.5, 5.0, 10.0 and 20.0 ng/mL (0, approx. 2.3, 5.7, 11.3, 22.7 and 45.3 nmol/L) |
| Expected Normal Values | > 5.21 ng/mL (11.80 nmol/L) |
| RBC Expected Normal Values | > 237 ng/mL (537 nmol/L) packed RBC |
| Open Pack Stability | 14 days |
| Calibration Stability | 28 days |
| Precision | Total imprecision < 15% CV across assay range |

## Ordering Information

| | |
|---|---|
| Access® Folate - 2 packs of 50 tests/pack | A14208 |
| Access® Folate Calibrators - 6 vials of 4 mL/vial | A14207 |
| Access® Folate Diluent (Folate S0 Calibrator) - 1 vial of 4 mL | 33016 |
| Access® RBC Folate Lysing Agent - 2 vials for preparation of 100 mL/vial | A14206 |

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