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AR09363PU-N Recombinant Human Cytokeratin 14 (Standard) - Purified

Alternate names: CK14, Cytokeratin-14, K14, KRT14, Keratin 14, Keratin Type I Cytoskeletal 14

Quantity: 0.25 mg

Concentration: 1.0 mg/ml

Background: Keratin 14 is a member of the keratin family, the most diverse group of intermediate filaments. It is usually found as a heterotetramer with two molecules of keratin 5, a type II keratin. Together they form the cytoskeleton of epithelial cells. Mutations in the genes for these keratins are associated with epidermolysis bullosa simplex. Keratin 14 has been studied as a prognostic marker in breast cancer.

Uniprot ID: P02533

NCBI: NP_000517

GeneID: 3861

Species: Human

Source: E. coli

Format:
State: Lyophilized purified protein
Purity: >95% determined by SDS gelelectrophoresis
Reconstitution: AR09363PU-N: Restore with 175 µl distilled water (final volume 250 µl).
AR09363PU-S: Restore with 70 µl distilled water (final volume 100 µl).
Final solution: 30mM Tris/HCl pH 8, 9.5M Urea, 2mM DTT, 2mM EDTA, 10mM Methylammonium Chloride.

Applications:
Protein standard in 1D and 2D SDS gelelectrophoresis.
Immunoassays.
Immunization.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Description: Recombinant human keratin K14 (formerly also designated cytokeratin 14).
Molecular weight:
51,662 (+ methionin).
51,530 (- methionin; calculated from sequence).
50,000 (determined by SDS gelelectrophoresis).

Add. Information: **Isoelectric Point:** pI 5.3 (4.92 calculated from sequence)

Storage: Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Herrmann H, Wedig T, Porter RM, Lane EB, Aebi U. Characterization of early assembly intermediates of recombinant human keratins. J Struct Biol. 2002 Jan-Feb;137(1-2):82-96. PubMed PMID: 12064936.
2. Hatzfeld M, Franke WW. Pair formation and promiscuity of cytokeratins: formation in vitro of heterotypic complexes and intermediate-sized filaments by homologous and heterologous recombinations of purified polypeptides. J Cell Biol. 1985 Nov;101(5 Pt 1):1826-41. PubMed PMID: 2414304.
3. Hatzfeld M, Maier G, Franke WW. Cytokeratin domains involved in heterotypic complex formation determined by in-vitro binding assays. J Mol Biol. 1987 Sep 20;197(2):237-55. PubMed PMID: 2445997.

Protocols:

Reconstitution to filaments is performed by mixing equimolar amounts of keratins of type I and type II at concentrations of approx. 0.5 mg/ml, both dissolved in 9.5 M urea buffer (see above). Protofilaments and filament complexes are obtained by dialyzing the resulting polypeptide solution stepwise to a concentration of 4 M urea and then to low salt condition (50 mM NaCl, 2 mM dithiothreitol, 10 mM Tris-HCl, pH 7.4).
For immunization purposes, the solution can be further dialyzed against PBS (phosphate buffered saline, e.g. Dulbecco's PBS).