

DETECTION OF ALBUMIN IN THE GIVEN SOLUTION

APPARATUS: Test tubes, Test tube holder, Test tube Rack, Pipettes, Beaker, and Burner.

REAGENTS: Albumin solution, 2% CuSO<sub>4</sub>, 5% NaOH, 2% acetic acid, 0.5% Ninhydrin solution, conc. HNO<sub>3</sub>, strong aqueous ammonia, Millon's Reagent, 20% NaOH, 2% lead acetate, Hopkin-Cole Reagent, conc. H<sub>2</sub>SO<sub>4</sub>, 1% alcoholic  $\alpha$ -naphthol, and NaOBr.

No.	TEST.	OBSERVATION.	INFERENCE.
1.	BIURET TEST.	violet colour	Peptide link <sup>age</sup> present
2.	HEAT COAGULATION TEST.	coagulum formed	may be globulin or albumin
3.	<b>AMMONIUM SULPHATE SATURATION TEST:</b>		
a.	50% SATURATION TESTS.	no ppt formed	globulin excluded
b.	100% SATURATION TESTS.	ppt formed	Albumin present
4.	<b>TESTS FOR INDIVIDUAL AMINO ACIDS:</b>		
a.	NINHYDRIN TEST.	Blue/purple color appear	Aliphatic A.A is present
b.	XANTHOPROTEIC TEST.	Yellow orange color	aromatic A.A present
c.	MILLON'S TEST.	Red ppt appears	Tyrosine is present
d.	CYSTEINE TEST.	Greyish brown color appears	Sulphur contain A.A present
e.	HOPKIN-COLE'S TEST.	violet color is present	Try Ptophan present
f.	ARGININE TEST.	-	-
5.	TEST FOR PHOSPHATE.	Yellow ppt	phosphat is present

~~RESULT~~ Albumin confirmed.

DETECTION OF CASEIN IN THE GIVEN MILK

No.	TEST.	OBSERVATION.	INFERENCE.
1.	BIURET TEST.	violet color	protein present
2.	HEAT COAGULATION TEST.	coagulum formed	albumin, globulin present, gelatin & peptone absent
3.	AMMONIUM SULPHATE SATURATION TEST:		
a.	50% SATURATION TESTS.	white ppt is formed	globulin may be present
b.	100% SATURATION TESTS.	white ppt is formed	albumin is formed
4.	MAGNESIUM SULPHATE SATURATION TEST	-	-
5.	TESTS FOR INDIVIDUAL AMINO ACIDS:		
a.	NINHYDRIN TEST.	purple color observed.	aliphatic A. Acid <sup>is</sup> present
b.	XANTHOPROTEIC TEST.	Yellow color.	aromatic amino acid present
c.	MILLON'S TEST.	red color.	Tyrosine present
d.	CYSTEINE TEST.	gray color.	Sulphur present
e.	HOPKIN-COLE'S TEST.	violet color.	Tryptophan is present
f.	ARGININE TEST.	-	-
6.	TEST FOR PHOSPHATE.	yellow color	Casein is present

RESULT Casein confirmed.

DETECTION OF LACTALBUMIN IN THE GIVEN MILK

No.	TEST.	OBSERVATION.	INFERENCE.
1.	BIURET TEST.	violet color observed	2 or more polypeptide linkages present
2.	HEAT COAGULATION TEST.	white coagulum observed	protein present
3.	AMMONIUM SULPHATE SATURATION TEST:		
a.	50% SATURATION TESTS.	white ppt	lactalbumin present
b.	100% SATURATION TESTS.	white ppt	lactalbumin present
4.	MAGNESIUM SULPHATE SATURATION TEST	—	—
5.	TESTS FOR INDIVIDUAL AMINO ACIDS:		
a.	NINHYDRIN TEST.	purple color observed.	Amino acid is present
b.	XANTHOPROTEIC TEST.	Yellow colour appeared.	presence of aromatic Amino acid
c.	MILLON'S TEST.	Red cherry colour.	Tyrosine present
d.	CYSTEINE TEST.	grey color observation	Sulphur is present
e.	HOPKIN-COLE'S TEST.	purple ring appearance of junction of 2 liquid	Tryptophan is present
f.	ARGININE TEST.	No observation	Nil
6.	TEST FOR PHOSPHATE.	Yellow ppt is formed	phosphate present

RESULT lactalbumin confirmed

DETECTION OF LACTGLOBULIN IN THE GIVEN MILK

No.	TEST.	OBSERVATION.	INFERENCE.
1.	BIURET TEST.	Violet colour is observed	protein present
2.	HEAT COAGULATION TEST.	persistent white coagulum is formed	Albumin + globulin present
3.	AMMONIUM SULPHATE SATURATION TEST:		
a.	50% SATURATION TESTS.	ppt formed	globulin present
b.	100% SATURATION TESTS.	ppt formed	Albumin present
4.	MAGNESIUM SULPHATE SATURATION TEST	-	-
5.	TESTS FOR INDIVIDUAL AMINO ACIDS:		
a.	NINHYDRIN TEST.	purple colour is observed	aromatic amino acid present
b.	XANTHOPROTEIC TEST.	yellow color solution formed	Aromatic A. acid present
c.	MILLON'S TEST.	red color ppt formed	Tyrosine present
d.	CYSTEINE TEST.	white ppt turns grey	sulphur present
e.	HOPKIN-COLE'S TEST.	purple ring at junction of 2 liquids	Tryptophan present
f.	ARGININE TEST.	-	-
6.	TEST FOR PHOSPHATE.	yellow ppt formed	phosphate present.

RESULT lactoglobulin confirmed.