

GCC**Iron Stain Kit
[Perl's Reaction]****SP380****Material Safety Data section****PRINCIPLE OF TEST**

Demonstration of iron stores in erythrocytes, bone marrow and tissue. Bound iron stains an intense blue when treated with acid ferrocyanide in this test (Prussian Blue reaction).

REAGENTS

1 – Potassium ferrocyanide reagent 10x20ml 2 – Hydrochloric acid reagent 10x20ml 3 – Counterstain 3 x 30ml

Reagent compounds in this kit are for 'In-Vitro Diagnostic use'. Standard precautions in the handling of laboratory reagents should be followed. Wear appropriate eye/body protection when in use. Use in a ventilated hood. Refer to Safety Data Section before use.

STORAGE AND STABILITY

Store all reagents safely at cool room temperature in a darkened cupboard. Keep dispenser nozzle caps tightly on bottles when not in use and reagents will remain stable for their shelf life.

ADDITIONAL REAGENTS REQUIRED

Methanol

SPECIMEN PREPARATION

Air dried blood/bone marrow smears. Bring paraffin, frozen or celloidin sections to water.

REAGENT PREPARATION AND SET-UP

1 – Beaker anhydrous Methanol.
2 – Coplin jar containing 1 bottle (20ml) of Potassium ferrocyanide reagent and 1 bottle (20ml) Hydrochloric acid reagent. Mix well. Use once and then discard.

TECHNIQUE

1 – Fix smears in Methanol for 10 mins.
Sections to deionised water and to step 2.
2 – Immerse slides in Coplin jar containing the ferrocyanide/HCL 50:50 reagent.

FOR SMEARS

Immerse in working stain for 10 minutes
Rinse in Deionised water
Immerse in counterstain for 3-5 seconds.
Rinse in Deionised water and air dry

FOR TISSUE SECTIONS

Immerse in working stain for 10 minutes
Rinse in Deionised water
Immerse in counterstain 3-5 seconds
Rinse in Deionised water.
Quickly dehydrate through alcohols to Xylene and mount

EXPECTED OBSERVATIONS

Tissue Sections	
Iron Pigment -	Bright blue
Nuclei -	Red
Cytoplasm -	Light pink

BLOOD OR BONE MARROW FILMS**Erythrocyte precursors**

Sideroblasts (nucleated erythrocytes) contain one or more blue granule. These are often small and may be difficult to see by light microscopy.

Reticuloendothelial system

Blue green deposits in the cytoplasm of phagocytic cells. Blue particles on bone marrow films.

Cut off the top 3mm from the dispenser nozzles to use. Beware, of the potential danger of liquid reagent squirting out of the nozzles and into the eyes. Wear suitable eye protection in use.
Some reagents in this kit (Hydrochloric acid < 2% w/v) are irritating to eyes and skin. Do not consume. Wear suitable protective clothing i.e. skin, eyes and face protection. In all cases take off contaminated clothing and wash with plenty of water. In case of contact with skin and eyes, rinse with large volumes of water or treatment from an eye bath station and seek medical attention if soreness persists. If any substance is taken internally rinse out mouth with plenty of water and seek immediate medical advice on what treatment to administer.

Potassium ferrocyanide reagent contains <2% potassium ferrocyanide in an aqueous solvent system. It poses little real risk in normal usage. However, always be aware that ferrocyanide contains the Cyanide ion (CN-) in a bound form (Complexed to iron Fe 2+ to form the ion Fe(CN)6 4-.) This complex may be broken down by Strong Acids to liberate free Cyanide ions and Hydrogen cyanide. Therefore keep this reagent **AWAY FROM** strong acids and only use the weak reagent acid provided with the kit.
There is a danger that free Cyanide ions (CN-) coming into contact with an acid such as the Hydrochloric acid reagent in this kit can form the **HIGHLY TOXIC GAS** – Hydrogen Cyanide, these should not be present in the kit reagents, however, be aware of this possible danger and only use this kit in an efficient ventilated hood wearing appropriate respiratory protection.
H290- May be corrosive to metals. H302- Harmful if swallowed. H312- Harmful in contact with skin. H315- Causes skin irritation. H319- Causes serious eye irritation.

Hydrochloric acid reagent is <2% HCl in aqueous solution. It is an irritant to eyes, skin and internal organs and may cause burns. If in contact with eyes wash with eye batch for 5 minutes. Seek medical attention if soreness persists. If in contact with skin wash with soap & water. S: 36
Counterstain is <1% safranin in an aqueous solvent system. It poses no real risk in normal use. Will stain skin – wash as usual to remove. S: 36
H290- May be corrosive to metals. H302- Harmful if swallowed. H312- Harmful in contact with skin. H315- Causes skin irritation. H319- Causes serious eye irritation. P262- Do not get in eyes, on skin, or on clothing. P281- Use personal protective equipment as required. P304/340- If inhaled remove victim to fresh air and keep at rest in a position comfortable for breathing. P302/352- If on skin wash with plenty of soap and water. P305/351- If in eyes rinse cautiously with water for several minutes. P338- Remove contact lenses, if present and easy to do. Continue rinsing. P308/313- If exposed or concerned get medical advice/ attention. P403 Store in a well-ventilated place. P233- Keep container tightly closed. P501- Dispose of contents/container to licensed waste disposal contractor.

Accidental spillage & waste disposal

In the quantities used in this kit the reagents in test may be disposed of to the public sewer by diluting with large volumes of water.
Mop up spillages with cloth, rinsing with tap water to public sewer.

Unsatisfactory performance

As part of our duty to monitor product performance and our policy of continual improvement. Please report to us any unsatisfactory performance you may experience with this product. If any reagent degrades before expiry date of shelf life we will replace that reagent free of charge.

GCC Diagnostics guarantees that the highest quality reagents are supplied with this product and that the product conforms to the information contained in this leaflet.
The user should however, determine the suitability of this product for their particular use.
If you wish to report any findings to us or if you require help or further information on the use of this product please contact us.

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Revised January 2006