

# LUKARE Medical

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# Since Safety is a Concern... Elliotts B® Solution

(buffered intrathecal electrolyte/dextrose injection)

Comparison of Electrolyte Composition, pH and Nonelectrolytic Constituents of Elliotts B Solution and CSF<sup>1</sup>

Solution	Cerebrospinal Fluid	Elliotts B <sup>®</sup> Solution		
Na <sup>+</sup> mEq/L	117 – 137	149		
K <sup>+</sup> mEq/L	2.3 – 4.6	4.0		
Ca <sup>++</sup> mEq/L	2.2	2.7		
Mg <sup>++</sup> mEq/L	2.2	2.4		
HCO <sub>3</sub> <sup>-</sup> mEq/L	22.9	22.6		
Cl <sup>-</sup> mEq/L	113 – 127	132		
рН	7.31	6.0 – 7.5		
Phosphorus Mg/dL	1.2 – 2.1	2.3		
Glucose Mg/dL	45.80	80		

EBS is comparable to Cerebrospinal Fluid in pH, electrolyte composition, glucose content, and osmolarity

**Elliotts B Solution** is indicated as a diluent for the intrathecal administration of methotrexate sodium and cytarabine for the prevention or treatment of meningealor lymphocytic leukemia or lymphocytic lymphoma.

Adverse reactions may occur with any given intrathecal injection due to the chemotherapy or the technique of intrathecal administration (see product labeling for methotrexate sodium and cytarabine).

<sup>&</sup>lt;sup>1</sup> Prescribing Information

### Elliotts B® Solution

#### (buffered intrathecal electrolyte/dextrose injection)

Rx only

#### **DESCRIPTION**

Elliotts  $B^{\otimes}$  Solution is a sterile, nonpyrogenic, isotonic solution containing no bacteriostatic preservatives. Elliotts B Solution is a diluent for intrathecal administration of methotrexate sodium and cytarabine.

#### Each 10 mL of Elliotts B Solution contains:

Sodium Chloride, USP 73 mg Sodium Bicarbonate, USP 19 mg Dextrose, USP 8 mg Magnesium Sulfate • 7H2O, USP 3 mg Potassium Chloride, USP 3 mg Calcium Chloride • 2H2O, USP 2 mg Sodium Phosphate, dibasic • 7H2O, USP 2 mg Water for Injection, USP qs 10 mL

#### Concentration of Electrolytes:

 Sodium
 149 mEq/liter
 Bicarbonate
 22.6 mEq/liter

 Potassium
 4.0 mEq/liter
 Chloride
 132 mEq/liter

 Calcium
 2.7 mEq/liter
 Sulfate
 2.4 mEq/liter

 Magnesium
 2.4 mEq/liter
 Phosphate
 1.5 mEq/liter

The formulae and molecular weights of the ingredients are:

INGREDIENT	MOLECULAR FORMULA	MOLECULAR WEIGHT	
Sodium Chloride	NaCl	58.44	
Sodium Bicarbonate	NaHCO <sub>3</sub>	84.01	
Dextrose	C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	180.16	
Magnesium Sulfate • 7H2O	Mg <sub>2</sub> SO <sub>4</sub> • 7H <sub>2</sub> O	246.48	
Potassium Chloride	KCI	74.55	
Calcium Chloride • 2H2O	CaCl <sub>2</sub> • 2H <sub>2</sub> O	147.01	
Sodium Phosphate, dibasic • 7H2O	Na <sub>2</sub> HPO <sub>4</sub> • 7H <sub>2</sub> O	268.07	

The pH of Elliotts B Solution is 6.0 - 7.5, and the osmolarity is 288 mOsmol per liter (calculated).

#### **CLINICAL PHARMACOLOGY**

Elliotts B Solution provides a buffered salt solution for use as a diluent for the intrathecal administration of methotrexate sodium and cytarabine. It has been demonstrated that Elliotts B Solution is comparable to cerebrospinal fuid in pH, electrolyte composition, glucose content, and osmolarity:

## Comparison of Electrolyte Composition, pH and Nonelectrolytic Constituents of Elliotts B Solution and CSF

Solution	Na+ mEq/L	K+ mEq/ L	Ca++ mEq/ L		HCO3 <sup>-</sup> mEq/L	CI <sup>-</sup> mEq/ L	рН	Phosphorus mg/ dL	Glucose mg/ dL
Cerebrospinal Fluid	117-137	2.3-4.6	2.2	2.2	22.9	113-127	7.31	1.2-2.1	45-80
Elliotts B Solution	149	4.0	2.7	2.4	22.6	132	6.0-7.5	2.3	80

The approximate buffer capacity of Elliotts B Solution is  $1.1 \times 10^{-2}$  equivalents when the challenge solution is 0.01 N HCl and  $7.8 \times 10^{-3}$  equivalents when the challenge solution is 0.01 N NaOH. Compatibility studies with methotrexate sodium and cytarabine indicate these drugs are physically compatible with Elliotts B Solution.

#### INDICATIONS AND USAGE

Elliotts B Solution is indicated as a diluent for the intrathecal administration of methotrexate sodium and cytarabine for the prevention or treatment of meningeal leukemia or lymphocytic lymphoma

#### **CONTRAINDICATIONS**

None known.

#### **WARNING**

Intrathecal administration of drugs such as methotrexate sodium and cytarabine should be performed by personnel skilled in the technique of lumbar puncture under the supervision of a physician who is experienced in the use of cancer chemotherapeutic agents. The labeling for methotrexate sodium and cytarabine should be consulted.

#### **PRECAUTIONS**

General

Particular attention should be taken to assure the maintenance of sterile technique throughout the procedure. (See DOSAGE AND ADMINISTRATION.)

Carcinogenesis. Mutagenesis. Impairment of Fertility

No standard mutagenicity or carcinogenicity studies have been conducted with Elliotts B Solution.

Usage in Pregnancy

All components of Elliotts B Solution are normal body constituents. Animal reproduction studies have not been conducted with Elliotts B Solution.

#### **ADVERSE REACTIONS**

Adverse reactions may occur with any given intrathecal injection due to the chemotherapy or the technique of intrathecal administration. (See product labeling for methotrexate sodium and cvtarabine.)

Preservative-free methotrexate sodium and cytarabine should be used to minimize adverse reactions due to preservatives.

If an adverse reaction does occur, discontinue the administration, evaluate the patient, institute appropriate therapeutic countermeasures and, if possible, save the remainder of the unused solution(s) for examination.

#### DRUG ABUSE AND DEPENDENCE

There is no potential for drug abuse or drug dependence.

#### **OVERDOSAGE**

Elliotts B Solution is a diluent. In the event of a drug, fluid or solute overload following administration, evaluate the patient's condition, and institute appropriate corrective treatment. (See product labeling for methotrexate sodium and cytarabine.)

#### **DOSAGE AND ADMINISTRATION**

See product labeling for methotrexate sodium and cytarabine.

Elliotts B Solution is intended for intrathecal administration only. Elliotts B Solution does not contain antibacterial preservatives and introduction of contaminated solutions into the cerebrospinal fluid may have extremely serious consequences. Therefore, administration of intrathecal solutions should be accomplished as soon as possible after preparation.

A sterile filter-needle should be used to withdraw the contents of the ampule.

Intrathecal drug products should be inspected visually for particulate matter and discoloration prior to administration.

#### **Preparation and Administration Precautions**

Elliotts B Solution is a diluent for the cytotoxic anticancer agents, methotrexate sodium and cytarabine. Care should be exercised in the handling and preparation of infusion solutions with these products. (See productlabeling for methotrexate sodium and cytarabine.)

#### **HOW SUPPLIED**

NDC	SIZE		
55792-007-10	10 mL ampule		

Elliotts B Solution is available in single-use clear glass ampules, packaged 10 ampules per box.

Store at controlled room temperature, 20°-25°C (68°-77°F) [See USP].

Preservative Free. Discard unused portion. Use only if solution is clear and ampule is intact.

Distributed by: Lukare Medical, LLC

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#### **REFERENCES:**

 Cradock JC, et al. Evaluation of some pharmaceutical aspects of intrathecal methotrexate sodium, cytarabine and hydrocortisone sodium succinate. *American Journal of Hospital Pharmacy* (1978); 35:402.