

Composition of hESF(+) (pH 7.2)

Component	Conc. (mg/L)
L-Alanine	2.225
L-Arginine	50
L-Arginine HCl	94.75
L-Asparatic acid	8.325
L-Asparagine H ₂ O	16.2525
L-Cysteine HCl	7.88
L-Cystine 2HCl	47.5725
L-Glutamic acid	8.675
L-Glutamine	549.65
Glycine	19.375
L-Histidine	23.165
L-Hydroxyproline	5
L-Isoleucine	65.935
L-Leucine	68.225
L-Lysine HCl	92.175
L-Methionine	19.87
L-Phenylalanine	37.99
L-Proline	13.625
L-Serine	31.125
L-Threonine	55.525
L-Tryptophan	9.76
L-Tyrosine	42.36
L-Valine	54.825
Glutathione	0.25
D-Biotin	0.05185
D-Pantothenic acid	2.1825
Choline chloride	6.24
Folic acid	2.575
i-Inositol	16.85
Niacinamide	2.25925
Pyridoxal HCl	2
Pyridoxine HCl	0.2655
Riboflavin (B ₂)	0.2595
Thiamin HCl (B ₁)	2.335
Vitamin B ₁₂	0.34125
Lipoic acid	0.0525
NaCl	6,599.75

KCl	355.9
MgCl ₂	30.515
NaH ₂ PO ₄	62.5
NaHCO ₃	2000
Calcium nitrate	25
Na ₂ HPO ₄	235.51
MgSO ₄	61.055
Phenol red	6.56
Ferrous sulfate	0.2085
Fe(NO ₃) ₃	0.005
CuSO ₄	0.000625
ZnSO ₄	0.216
Sodium pyruvate	110
Glucose	2500
Kanamycin sulfate	100
Putrescine 2HCl	0.04025
p-Aminobenzoic acid	0.25
Linoleic acid	0.021
Hypoxanthine	1.02
Thymidine	0.1825
L-Ascorbic acid 2-phosphate	100

From Furue MK et al. (2008)

Heparin promotes the growth of human embryonic stem cells in a defined serum-free medium.

***Proc Natl Acad Sci U S A* 105:** 13409–13414.