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CYTOKINES / GROWTH FACTORS

PREPARATION	STANDARD	MATERIAL	HELD AT	CODE	WHO/BS DOCUMENT
Basic fibroblast growth factor (bFGF, FGF-2), human, rDNA derived, Lyophilized, 1,600 IU / ampoule.	1st International Standard, 1993	Recombinant growth factor	NIBSC	90/712	93.1736
Bone morphogenic protein-2, human, rDNA derived, Lyophilized, 5,000 units / ampoule.	1st Reference Reagent, 1997	Recombinant cytokine	NIBSC	93/574	97.1857
Brain derived neurotrophic factor, human, rDNA derived, Lyophilized, 16,000 units / ampoule.	1st Reference Reagent, 1997	Recombinant growth factor	NIBSC	96/534	97.1867
Ciliary Neurotrophic Factor for the bioassay of human CNTF, human, rDNA derived, Lyophilized, For bioassay: 8,000 units / ampoule; for immunoassay: 6.5 µg / ampoule.	1st Reference Reagent, 2001	Recombinant growth factor	NIBSC	94/684	01.1943
Epidermal growth factor (1-52), human, recombinant, Lyophilized, 1.75 µg / ampoule. No unitage assigned.	1st International Reference Reagent, 1994	Recombinant growth factor	NIBSC	91/550	94.1781
Epidermal growth factor, human, recombinant, Lyophilized, 2,000 IU / ampoule.	1st International Standard, 1994	Recombinant growth factor	NIBSC	91/530	94.1781
FMS-like tyrosine kinase 3 ligand, human, rDNA derived, Lyophilized, 1,000 units / ampoule.	1st Reference Reagent, 1997	Recombinant cytokine	NIBSC	96/532	97.1858
Granulocyte colony stimulating factor, human, recombinant, Lyophilized, 10,000 IU / ampoule.	1st International Standard, 1992	Recombinant growth factor	NIBSC	88/502	92.1711
Granulocyte-macrophage colony stimulating factor, human, recombinant, Lyophilized, 1000ng / ampoule.	2nd International Standard, 2010	Recombinant growth factor	NIBSC	09/136	10.2133 
Hepatocyte growth factor/scatter factor (precursor), human, Lyophilized, 2,000 IU / ampoule.	1st International Standard, 1999	Recombinant growth factor	NIBSC	96/556	99.1899
Hepatocyte growth factor/scatter factor, human, Lyophilized, 4,000 IU / ampoule.	1st International Standard, 1999	Recombinant growth factor	NIBSC	96/564	99.1899
Insulin-like growth factor I for bioassay, Lyophilized, 150 IU / ampoule.	1st International Standard, 1994	Recombinant growth factor	NIBSC	91/554	94.1770
Insulin-like growth factor II, human, recombinant, Lyophilized, 5,000 units / ampoule.	1st Reference Reagent, 1999	Recombinant growth factor	NIBSC	96/538	99.1898
Interferon alpha , human, leukocyte N3, Lyophilized, 60,000 IU / ampoule.	1st International Standard, 1999	Human cells leukocyte derived	NIBSC	95/574	99.1911
Interferon alpha 1/8, human, Lyophilized, 27,000 IU / ampoule.	1st International Standard, 1999	Recombinant cytokine	NIBSC	95/572	99.1911
Interferon alpha 2c, human, recombinant, Lyophilized, 40,000 IU / ampoule.	1st International Standard, 1999	Recombinant cytokine	NIBSC	95/580	99.1911
Interferon alpha consensus, human, recombinant, Lyophilized, 100,000 IU / ampoule.	1st International Standard, 1999	Recombinant cytokine	NIBSC	94/786	99.1911
Interferon alpha, human, leukocyte (HuIFN-α(Le)), Lyophilized, 11,000 IU / ampoule.	2nd International Standard, 1999	Human cells leukocyte derived	NIBSC	94/784	99.1911

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Interferon alpha, human, lymphoblastoid N1 (HuIFN-alpha(Ly)), Lyophilized, 38,000 IU / ampoule.	2nd International Standard, 1999	Human cells lymphoblastoid derived	NIBSC	95/568	99.1911
Interferon alpha-1 (alpha-D), human, recombinant, (rHuIFN-alpha1(alphaD)), Lyophilized, 8,000 IU / ampoule.	1st International Standard, 1987	Recombinant cytokine	NIBSC	83/514	87.1552
Interferon alpha2a, human, recombinant (rHuIFN-alpha2 (alpha-A)), Lyophilized, 63,000 IU / ampoule.	2nd International Standard, 1999	Recombinant cytokine	NIBSC	95/650	99.1911
Interferon alpha2b, human, recombinant, (rHuIFN-alpha2 (alpha-2b)), Lyophilized, 70,000 IU / ampoule.	2nd International Standard, 1999	Recombinant cytokine	NIBSC	95/566	99.1911
Interferon beta ser-17, human, recombinant (rHuIFN-beta(ser17)), Lyophilized, 6,000 IU / ampoule.	1st International Reference Reagent, 1987	Recombinant cytokine	NIAID	Gxb02-901-535	87.1552
Interferon beta, human, fibroblast (HuIFN-beta), Lyophilized, 40,000 IU / ampoule.	3rd International Standard, 2003	Human cells fibroblast derived	NIBSC	00/572	03.1976 
Interferon gamma, human, recombinant, Lyophilized, 80,000 IU / ampoule.	1st International Standard, 1994	Recombinant cytokine	NIAID	Gxg01-902-535	94.1782
Interferon omega, human, recombinant, , 20,000 IU / ampoule.	1st International Standard, 1999	Recombinant cytokine	NIBSC	94/754	99.1911
Interferon, chick, Lyophilized, 80 IU / ampoule.	1st International Reference Preparation, 1978	Chick embryo cytokine	NIBSC	67/018	78.1225
Interferon, murine, alpha (MuIFN-alpha), Lyophilized, 16,000 IU / ampoule.	2nd International Standard, 1987	Murine cytokine	NIAID	Ga02-901-511	87.1552
Interferon, murine, beta (MuIFN-beta), Lyophilized, 15,000 IU / ampoule.	2nd International Standard, 1987	Recombinant cytokine	NIAID	Gb02-902-511	87.1552
Interferon, murine, gamma (MuIFN-gamma), Lyophilized, 1,000 IU / ampoule.	1st International Reference Reagent, 1987	Recombinant cytokine	NIAID	Gg02-901-533	87.1552
Interferon, rabbit, Lyophilized, 10,000 IU / ampoule.	1st International Standard, 1978	Recombinant cytokine	NIAID	G019-902-528	78.1225
Interleukin-1 alpha, human, Lyophilized, 117,000 IU / ampoule.	1st International Standard, 1989	Recombinant cytokine	NIBSC	86/632	TRS 800, 1990
Interleukin-1 beta, human, Lyophilized, 100,000 IU / ampoule.	1st International Standard, 1989	Recombinant cytokine	NIBSC	86/680	TRS 800, 1990
Interleukin-10, human, Lyophilized, 5,000 units / ampoule.	1st Reference Reagent, 1997	Recombinant cytokine	NIBSC	93/722	97.1868
Interleukin-11, human, Lyophilized, 5,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	92/788	96.1849
Interleukin-12, human, Lyophilized, 10,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	95/544	96.1849
Interleukin-13, human, Lyophilized, 1,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	94/622	96.1849
Interleukin-15, human, Lyophilized, 1,0000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	95/554	96.1849
Interleukin-17, for bioassays, Lyophilized, 10,000 units/ampoule	1st Reference Reagent, 2006	Cytokine	NIBSC	01/420	06.2039 
Interleukin-18, for bioassays, Lyophilized, 10,000 units/ampoule	1st Reference Reagent, 2006	Cytokine	NIBSC	03/200	06/2040 

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● Interleukin-2, human, Lyophilized, 100 IU / ampoule.	1st International Standard, 1987	T-Cell line (Jurkat) derived	NIBSC	86/ 504	87.1559
● Interleukin-3, human, Lyophilized, 1,700 IU / ampoule.	1st International Standard, 1994	Recombinant cytokine	NIBSC	91/510	94.1788
● Interleukin-4, human, Lyophilized, 1,000 IU / ampoule.	1st International Standard, 1994	Recombinant cytokine	NIBSC	88/656	94.1788
● Interleukin-5, human, Lyophilized, 5,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	90/586	96.1849
● Interleukin-6, human, Lyophilized, 100,000 IU / ampoule.	1st International Standard, 1992	Recombinant cytokine	NIBSC	89/548	92.1713
● Interleukin-7, human, Lyophilized, 100,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	90/530	96.1849
● Interleukin-8, human, Lyophilized, 1,000 IU / ampoule.	1st International Standard, 1995	Recombinant cytokine	NIBSC	89/520	95.1820
● Interleukin-9, human, Lyophilized, 1,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	91/678	96.1849
● Keratinocyte growth factor, human, Lyophilized, 4000 units of KGF per ampoule.	1st Reference Reagent, 2005	Recombinant growth factor	NIBSC	03/150	05.2027 
● Keratinocyte growth factor, human (24-163), Lyophilized, 9000 units of KGF per ampoule.	1st Reference Reagent, 2005	Recombinant growth factor	NIBSC	03/148	05.2027 
● Leukaemia inhibitory factor, human, Lyophilized, 10,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	93/562	96.1850
● Macrophage colony stimulating factor, human (CSF-1), Lyophilized, 60,000 IU / ampoule.	1st International Standard, 1992	Recombinant growth factor	NIBSC	89/512	92.1712
● Nerve growth factor, human, Lyophilized, 10,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant growth factor	NIBSC	93/556	96.1836
● Oncostatin M, human, Lyophilized, 25,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	93/564	96.1851
● Platelet derived growth factor-BB isoform, human, Lyophilized, 3,000 IU / ampoule.	1st International Standard, 1997	Recombinant growth factor	NIBSC	94/728	97.1864
● Recombinant Human Luteinizing hormone, Lyophilized, 189 IU / ampoule.	1st International Standard, 2003	Recombinant hormone	NIBSC	96/602	03.1983 
● Stem cell factor, human, Lyophilized, 1,000 units / ampoule.	1st Reference Reagent, 1997	Recombinant cytokine	NIBSC	91/682	97.1859
● TNF-related apoptosis inducing ligand, Lyophilized, 10,000 units / ampoule.	1st Reference Reagent, 2007	Recombinant cytokine human	NIBSC	04/166	07.2058 
● Tumor necrosis factor, alpha, human, natural, Lyophilized, 46500 IU / ampoule.	2nd International Standard, 2003	Recombinant cytokine	NIBSC	88/786	91.1681
● Tumor necrosis factor, beta, human, Lyophilized, 150,000 units / ampoule.	1st Reference Reagent, 1996	Recombinant cytokine	NIBSC	87/640	96.1852
● Vascular endothelial growth factor, human, Lyophilized, 13000 units per ampoule.	1st Reference Reagent, 2005	Recombinant growth factor	NIBSC	02/286	05.2028