

MON.TEK

⁹⁹Mo/^{99m}Tc Generator

PRODUCT DATA

Element	Molybdenum-99
Mother Nuclide	Sodium Molybdate ($\text{Na}^{99}\text{MoO}_4$) 5-50 GBq / Generator (Mo-99 radioactivity at calibration date)
Daughter Nuclide	Sodium (^{99m}Tc) pertechnetate (obtained from $^{99}\text{Mo}/^{99m}\text{Tc}$ generator system.)
Half-life	6.02 hours
Shelf Life	21 days from the date of production for the generator 12 hours from elution time
Calibration Activities	10, 15, 20, 30, 35, 40 GBq Mo-99
Packaging	Generator set • 1 unit $^{99}\text{Mo}/^{99m}\text{Tc}$ radionuclide generator in the special package • Sterile 0.9 NaCl solution 10 ml or 5 ml (5 vial per each) in cardboard box packages. • 2x5 units of sterile evacuated vials in a cardboard box • 10 units of elution label for vial and 10 units of label for lead shield • 10 units of swap containing 70% isopropyl alcohol • Patient Information Leaflet





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SPECIFICATIONS

Appearance	Clear, colorless solutions
Radiochemical Purity	Minimum 95% of total Tc-99m radioactivity
Identification	The most prominent gamma photon of technetium-99m has an energy of 0.141 MeV
Eluate	Sodium Pertechnetate (^{99m} Tc) Injection (Fission)
Iodine-131 (impurity A)	¹³¹ I/ Total Radioactivity ≤ 5% $\times 10^{-3}$
Molybdenum-99 (impurity B)	⁹⁹ Mo/ Total Radioactivity ≤ 0.1%
Ruthenium-103 (impurity C)	¹⁰³ Ru/ Total Radioactivity ≤ 5% $\times 10^{-3}$

SPECIFICATIONS

Beta emitting impurities	⁸⁹ Sr/ Total Radioactivity ≤ 6% $\times 10^{-5}$
Strontium-89 (impurity D)	⁹⁰ Sr/ Total Radioactivity ≤ 6% $\times 10^{-6}$
Gamma impurities/Total Radioactivity	≤ 0.01%
Alpha impurities/Total Radioactivity	≤ 1% $\times 10^{-7}$
Aluminum	≤ 5 ppm
Bacterial Endotoxins (LAL)	≤ 0.25 IU / mL
pH	4.0 – 8.0
Sterility	Sterile

TABLE OF ^{99m}Tc ACTIVITIES OBTAINED FROM MON.TEK ⁹⁹Mo/^{99m}Tc GENERATORS

DAYS	MON.TEK 10		MON.TEK 15		MON.TEK 20		MON.TEK 25		MON.TEK 30		MON.TEK 35		MON.TEK 40	
	mCi	MBq	mCi	MBq	mCi	MBq	mCi	MBq	mCi	MBq	mCi	MBq	mCi	MBq
-6	1.079	39.923	1.631	60.347	2.183	80.771	2.734	101.158	3.286	121.582	3.838	142.006	4.390	162.430
-5	831	30.747	1.256	46.472	1.680	62.160	2.105	77.885	2.530	93.610	2.955	109.335	3.380	125.060
-4	640	23.680	967	35.779	1.294	47.878	1.621	59.977	1.948	72.076	2.275	84.175	2.602	96.274
-3	492	18.204	744	27.528	996	36.852	1.248	46.176	1.500	55.500	1.752	64.824	2.004	74.148
-2	379	14.023	573	21.201	767	28.379	961	35.557	1.155	42.735	1.349	49.913	1.543	57.091
-1	292	10.804	441	16.317	590	21.830	740	27.380	889	32.893	1.038	38.406	1.188	43.956
0	225	8.325	340	12.580	455	16.835	570	21.090	685	25.345	800	29.600	915	33.855
+1	173	6.401	261	9.657	350	12.950	438	16.206	527	19.499	616	22.792	704	26.048
+2	133	4.921	201	7.437	269	9.953	337	12.469	406	15.022	474	17.538	542	20.054
+3	102	3.774	155	5.735	207	7.659	260	9.620	312	11.544	365	13.505	417	15.429
+4	79	2.923	119	4.403	159	5.883	200	7.400	240	8.880	281	10.397	321	11.877
+5	60	2.220	92	3.404	123	4.551	154	5.698	185	6.845	216	7.992	247	9.139
+6	46	1.702	70	2.590	94	3.478	118	4.366	142	5.254	166	6.142	190	7.030
+7	36	1.332	54	1.998	73	2.701	91	3.367	109	4.033	128	4.736	146	5.402
+8	27	999	42	1.554	56	2.072	70	2.590	84	3.108	98	3.626	113	4.181
+9	21	777	32	1.184	43	1.591	54	1.998	65	2.405	76	2.812	87	3.219
+10	16	592	24	888	33	1.221	41	1.517	50	1.850	58	2.146	67	2.479
+11	12	444	19	703	25	925	32	1.184	38	1.406	45	1.665	51	1.887
+12	9	333	14	518	19	703	24	888	29	1.073	34	1.258	39	1.443
+13	7	259	11	407	15	555	19	703	22	814	26	962	30	1.110
+14	5	185	8	296	11	407	14	518	17	629	20	740	23	851
+15	4	148	6	222	9	333	11	407	13	481	15	555	18	666

*Elution Activity is the activity obtained from a generator eluted at 8 A.M by at least 5 ml sodium chloride 9 mg/ml (0.9%) solution for injection that is not eluted during 24 hours.

** The activities to be obtained are the 90-110% of the given activity amounts.

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