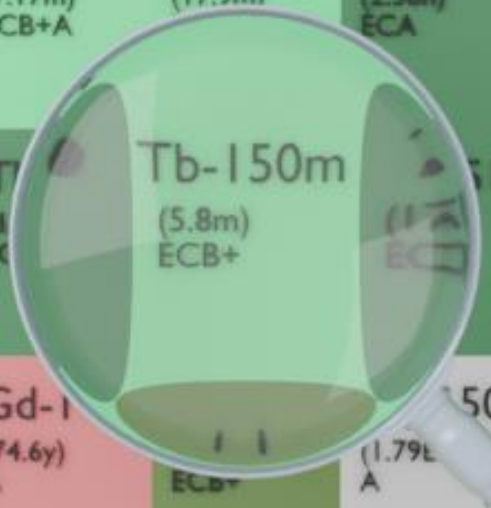




Dy-146 (3.3m) ECB+	Dy-147 (4.20m) ECB+	Dy-150 (7.17m) ECB+A	Dy-151 (17.9m)	Dy-152 (2.38h) ECA	Dy-153 (6.4h) ECB+A	Dy-154 (3.0E+6y) A	Dy-155 (9.9h) ECB+
Tb-146 (23s) CB+	Tb-147 (1.64h) ECB+	Tb-148 (60m) ECB+	Tb-150m (5.8m) ECB+	Tb-151 (1.7h) ECB+	Tb-152 (17.5h) ECB+	Tb-153 (2.34d) ECB+	Tb-154 (21.5h) ECB+
Gd-145 (13.0m) CB+	Gd-146 (48.27d) EC	Gd-147 (38.1h) ECB+	Gd-150 (74.6y) A	Gd-151 (1.79E+6y) A	Gd-152 (124d) ECA	Gd-153 (1.08E+14y) A	Gd-154 (240.4d) EC

TERBIUM-150M

SUMMARY DATA

GENERAL

CLASSIFICATION

Isotope: Tb-150m
Atomic number (Z): 65
Mass number (A): 150
Neutron number (N): 85

RADIOACTIVE DECAY

Decay modes: β^+ , Electron capture
Half-life: 5.8 [m]
Decay constant: $1.9918\text{e-}03$ [1/s]
Daughters: Gd-150 (100.0%)
Radioactive daughters: Gd-150

DOSIMETRIC CONSTANTS

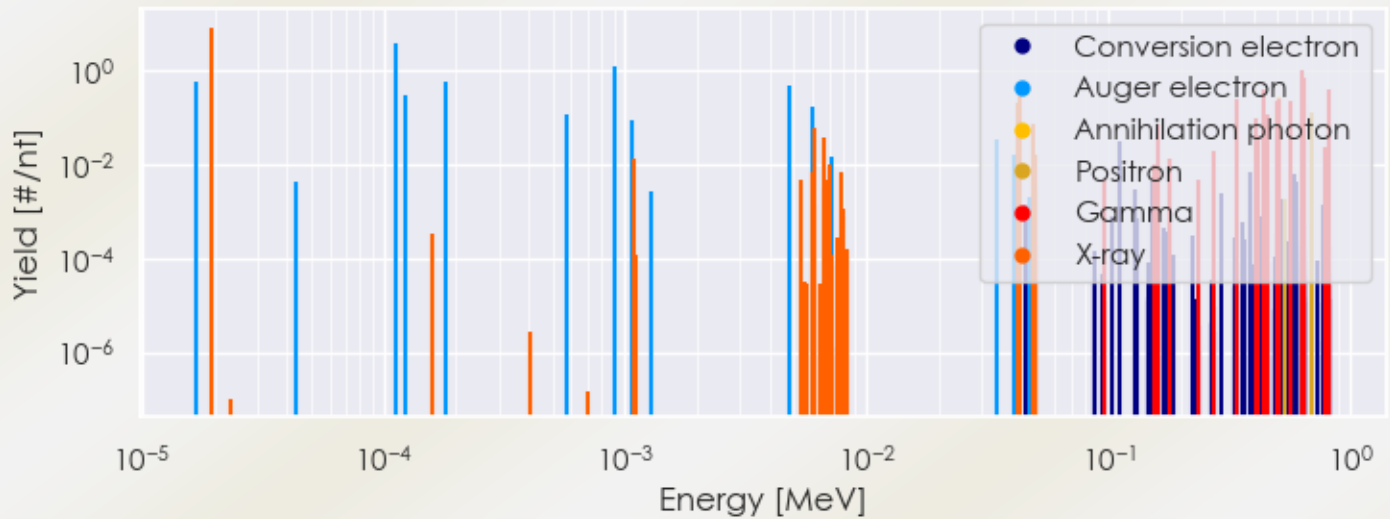
Mean alpha energy: 0.0 [MeV]
Mean electron energy: 0.12671 [MeV]
Mean photon energy: 2.52024 [MeV]
Air kerma rate constant, Γ_{10} : $9.013\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Air kerma coefficient, K_{air} : $9.544\text{e-}17$ [$\text{Gy} \cdot \text{m}^2/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for weakly-penetrating radiations (α and/or electrons), Δ_{wp} : $2.030\text{e-}14$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]
Equilibrium dose constant for alphas, Δ_{α} : $0.000\text{e+}00$ [$\text{Gy} \cdot \text{kg}/\text{Bq} \cdot \text{s}$]

Equilibrium dose constant for betas/electrons, $\Delta_{\beta, \beta^+, e^-}$: 2.030×10^{-14} [Gy·kg/Bq·s]

Equilibrium dose constant for photons, Δ_p : 4.038×10^{-13} [Gy·kg/Bq·s]

SUMMARY SPECTRA (PLOT)

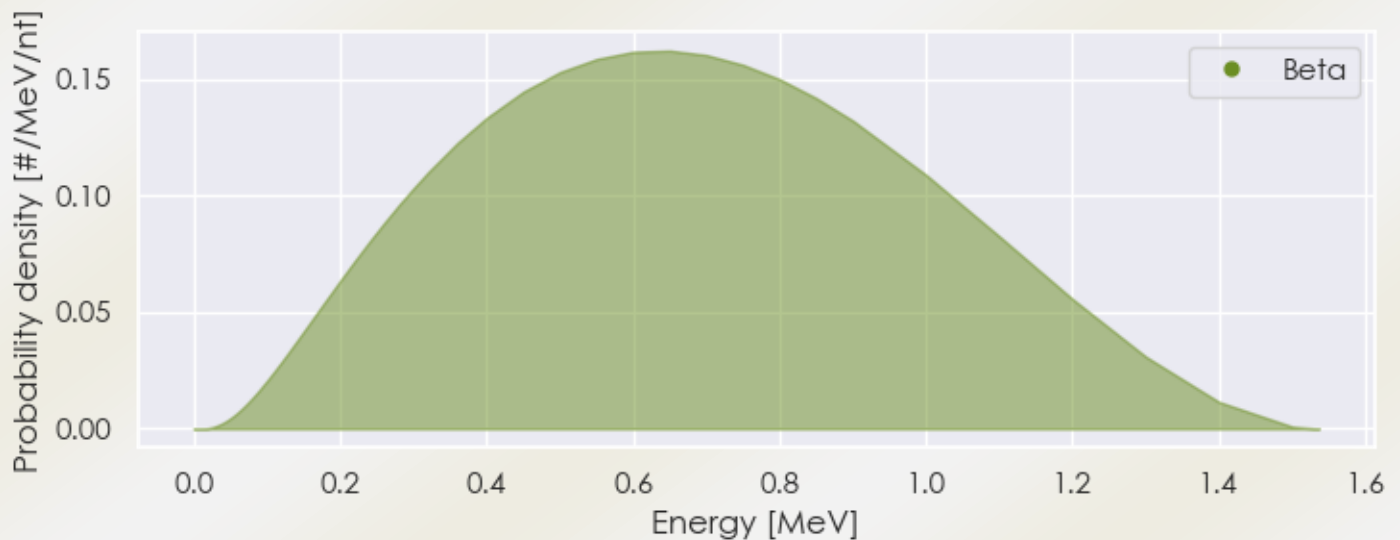
Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated summary spectra file here: [www.mirdsoft.org/products/MIRDspecs/Tb-150m Summary Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Tb-150m%20Summary%20Spectrum.csv)

BETA SPECTRA (PLOT)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**



Download tabulated beta spectra file here: [www.mirdsoft.org/products/MIRDspecs/Tb-150m Beta Spectrum.csv](http://www.mirdsoft.org/products/MIRDspecs/Tb-150m%20Beta%20Spectrum.csv)

TABULATED DATA

SUMMARY SPECTRA (TABLE)

Spectra source: **ICRP Publication 107: Nuclear Decay Data for Dosimetric Calculations. Ann. ICRP 2008, 38 (3).**

Note: Radiations with yield < 0.01 are excluded from the table, but are available in the linked *.csv data.

Download tabulated summary spectra file here: www.mirdsoft.org/products/MIRDspecs/Tb-150m Summary Spectrum.csv

Energy [MeV]	Yield [# / n ^t] if > 0.01	Radiation type
1.94295e-05	8.536e+00	X-ray
1.09477e-03	1.301e-02	X-ray
6.04290e-03	5.988e-02	X-ray
6.71540e-03	3.868e-02	X-ray
7.08640e-03	1.018e-02	X-ray
4.23559e-02	2.131e-01	X-ray
4.30603e-02	3.831e-01	X-ray
4.86161e-02	3.893e-02	X-ray
4.87612e-02	7.530e-02	X-ray
5.00239e-02	1.661e-02	X-ray
1.54100e-01	1.000e-02	Gamma
1.62000e-01	7.300e-02	Gamma
1.79400e-01	1.400e-02	Gamma
1.80900e-01	1.400e-02	Gamma
2.74900e-01	1.900e-02	Gamma
3.43070e-01	2.500e-01	Gamma
4.12400e-01	9.800e-02	Gamma
4.15300e-01	4.000e-02	Gamma
4.38370e-01	4.200e-01	Gamma
4.55700e-01	1.200e-01	Gamma
4.96300e-01	2.350e-01	Gamma
5.10000e-01	2.500e-01	Gamma
5.11000e-01	2.741e-01	Annihilation photon
5.66520e-01	2.200e-01	Gamma
6.38050e-01	1.000e+00	Gamma
6.48400e-01	1.850e-01	Gamma
6.50400e-01	7.000e-01	Gamma

7.89900e-01	2.300e-02	Gamma
8.27480e-01	4.100e-01	Gamma
6.95037e-01	1.352e-01	Positron
1.68638e-05	5.737e-01	Auger electron
1.13380e-04	3.840e+00	Auger electron
1.23656e-04	3.158e-01	Auger electron
1.82299e-04	5.999e-01	Auger electron
5.72570e-04	1.211e-01	Auger electron
8.97952e-04	1.294e+00	Auger electron
1.07582e-03	8.783e-02	Auger electron
4.77202e-03	4.756e-01	Auger electron
5.92810e-03	1.668e-01	Auger electron
7.11885e-03	1.449e-02	Auger electron
3.47386e-02	3.324e-02	Auger electron
4.11460e-02	1.646e-02	Auger electron
1.11697e-01	3.261e-02	Conversion electron

USEFUL LINKS

Isotope decay characteristics are periodically updated as better measurements can be made - changes that may not be reflected on this page. Please see useful links:

National Nuclear Data Center (NNDC): <https://www.nndc.bnl.gov/nudat3/mird/>

International Atomic Energy Agency (IAEA) Livechart: <https://www-nds.iaea.org/relnsd/vcharthtml/VChartHTML.html>

REFERENCE LINKS

ICRP Report 107: <https://www.icrp.org/publication.asp?id=ICRP%20Publication%20107>

Graves et al. Dose Point Kernels: <https://doi.org/10.1002/mp.13789>

MIRD Decay Schemes 2nd Edition: https://sites.snmmi.org/SNMMI-MAIN/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=0-932004-80-6