

Isótopos PET y P-PET naturales del cuerpo humano				
Tipo	Isotope $\beta^+$	Nuclear reaction channels	E. Threshold (MeV)	Half-life
PET	$^{11}\text{C}$	$^{12}\text{C}(\text{p,pn})^{11}\text{C}$	17.88	20.33 min
		$^{14}\text{N}(\text{p},2\text{p}2\text{n})^{11}\text{C}$	31.32	
		$^{16}\text{O}(\text{p},3\text{p}3\text{n})^{11}\text{C}$	23.58	
PET	$^{13}\text{N}$	$^{14}\text{N}(\text{p,pn})^{13}\text{N}$	8.9	9.96 min
		$^{16}\text{O}(\text{p},2\text{p}2\text{n})^{13}\text{N}$	5.54	
PET	$^{14}\text{O}$	$^{16}\text{O}(\text{p},\text{p}2\text{n})^{14}\text{O}$	21.69	70.61 s
PET	$^{15}\text{O}$	$^{16}\text{O}(\text{p,pn})^{15}\text{O}$	14.28	122.24 s
PET	$^{30}\text{P}$	$^{31}\text{P}(\text{p,pn})^{30}\text{P}$	10.41	2.50 min
PET	$^{38g}\text{K}$	$^{40}\text{Ca}(\text{p},^3\text{He})^{38g}\text{K}$	14.039	7.6 min
		$^{40}\text{Ca}(\text{p,pd})^{38g}\text{K}$	19.664	
		$^{40}\text{Ca}(\text{p},\text{n}2\text{p})^{38g}\text{K}$	21.945	
PET	$^{44}\text{Sc}$	$^{44}\text{Ca}(\text{p},\text{n})^{44}\text{Sc}$	4.54	3.97 h
P-PET	$^{10}\text{C}$	$^{12}\text{C}(\text{p},\text{p}2\text{n})^{10}\text{C}$	25.32	19.29 s
		$^{16}\text{O}(\text{p},3\text{p}4\text{n})^{10}\text{C}$	29.82	
P-PET	$^{12}\text{N}$	$^{12}\text{C}(\text{p},\text{n})^{12}\text{N}$	19.641	11.00 ms
P-PET	$^{29}\text{P}$	$^{31}\text{P}(\text{p},^3\text{He})^{29}\text{P}$	15.641	4.142 s
P-PET	$^{31}\text{S}$	$^{31}\text{P}(\text{p},\text{n})^{31}\text{P}$	19.860	2.5534 s
P-PET	$^{37}\text{K}$	$^{40}\text{Ca}(\text{p},\alpha)^{37}\text{K}$	5.312	1.22 s
P-PET	$^{38m}\text{K}$	$^{40}\text{Ca}(\text{p},^3\text{He})^{38m}\text{K}$	14.039	925 ms
		$^{40}\text{Ca}(\text{p,pd})^{38m}\text{K}$	19.664	
		$^{40}\text{Ca}(\text{p},\text{n}2\text{p})^{38m}\text{K}$	21.945	

Tabla 1: —

PG naturales del cuerpo humano				
Tipo	Rayo $\gamma$	Nuclear reaction channels	Targets	Half-life
PG	1.635	$^{14}\text{N}(\text{p}, 2\text{p}2\text{n})^{14}\text{N}^*$	$^{14}\text{N}$	4.8 fs
PG	2.312	$^{14}\text{N}(\text{p}, 2\text{p}2\text{n})^{14}\text{N}^*$	$^{14}\text{N}$	68 fs
PG	4.438	$^{12}\text{C}(\text{p}, \text{p}')^{12}\text{C}^*$	$^{12}\text{C}, ^{16}\text{O}$	
		$^{16}\text{O}(\text{p}, \text{X})^{12}\text{C}^*$	$^{16}\text{O}$	
PG	6.13	$^{16}\text{O}(\text{p}, \text{p}')^{16}\text{O}^*$	$^{16}\text{O}$	18.4 ps

Tabla 2: —

Isótopos $\beta^+$ del Zinc Natural				
Tipo	Isótopo $\beta^+$	Nuclear reaction channels	Energía Umbral (MeV)	Half-life
PET	$^{64}\text{Ga}$	$^{64}\text{Zn}(\text{p}, \text{n})^{64}\text{Ga}$	8.078	156 s
PET	$^{65}\text{Ga}$	$^{66}\text{Zn}(\text{p}, 2\text{n})^{65}\text{Ga}$	15.326	15.2 min
PET	$^{66}\text{Ga}$	$^{66}\text{Zn}(\text{p}, \text{n})^{66}\text{Ga}$	6.048	9.5 h
		$^{67}\text{Zn}(\text{p}, 2\text{n})^{66}\text{Ga}$	13.206	
PET	$^{67}\text{Ga}$	$^{67}\text{Zn}(\text{p}, \text{n})^{67}\text{Ga}$	1.81	3.2 d
		$^{68}\text{Zn}(\text{p}, 2\text{n})^{67}\text{Ga}$	12.159	
PET	$^{68}\text{Ga}$	$^{68}\text{Zn}(\text{p}, \text{n})^{68}\text{Ga}$	3.758	67 min

Tabla 3: —

Isótopos $\beta^+$ del $^{127}\text{Iodo}$				
Tipo	Isótopo $\beta^+$	Nuclear reaction channels	Energía Umbral (MeV)	Half-life
PET	$^{127}\text{Xe}$	$^{127}\text{I}(\text{p}, \text{n})^{127}\text{Xe}$	1.456	124.8 min
PET	$^{125}\text{Xe}$	$^{127}\text{I}(\text{p}, 3\text{n})^{125}\text{Xe}$	18.864	101 min
PET	$^{123}\text{Xe}$	$^{127}\text{I}(\text{p}, 5\text{n})^{123}\text{Xe}$	37.095	36.46 d

Tabla 4: —

Isótopos $\beta^+$ del $^{18}\text{O}$				
Tipo	Isótopo $\beta^+$	Nuclear reaction channels	Energía Umbral (MeV)	Half-life
PET	$^{18}\text{F}$	$^{18}\text{O}(\text{p,n})^{18}\text{F}$	2.574	109.77 min

Tabla 5: —

Isótopo	Isótopo Hijo	Q (keV)	T <sub>1/2</sub> (s)	Positrones (keV)		Gammas (keV)	
				E. Media	E. Máxima	Energía	
<sup>10</sup> C	<sup>10</sup> B	3648	19.29	814.26	1907.6	511	199.92 %
						718.353	100 %
<sup>11</sup> C	<sup>11</sup> N	1221	1982.4	385.7	960.4	511	199.534 %
<sup>13</sup> N	<sup>13</sup> C	2220.49	598	491.82	1198.5	511	199.607 %
<sup>14</sup> O	<sup>14</sup> N	5143	70.606	770.55	1808.24	511	199.76 %
						2312.593	99.380 %
<sup>15</sup> O	<sup>15</sup> N	2754	122.24	735.28	1732	511	199.8 %
<sup>38</sup> K	<sup>38</sup> Ar	5913.86	458	1212.08	2727.4	511	199.07 %
				398.78	955.9	2167.5	99.858 %
<sup>30</sup> P	<sup>10</sup> Si	4232.4	150	1441.13	3210.4	511	199.710 %
<sup>44</sup> Sc	<sup>44</sup> Ca	3652	3.97 h	632.0	1473.5	511	188.54 %
						1157.020	99.9 %

Tabla 6: —