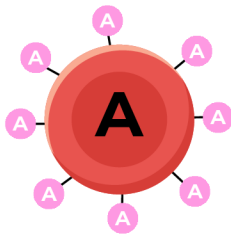



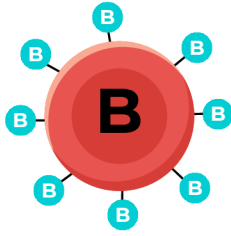



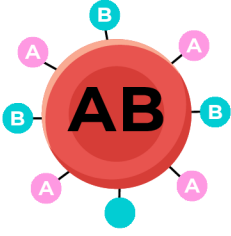




Blood Type

Blood Types A, B, AB

Cats have three main blood serotypes called Type A, Type B, and Type AB (also known as Type C), which are determined by the activity of an enzyme encoded by the *CMAH* gene. Several genetic variants can influence the activity of this enzyme. ***It is possible to have Type B with one copy each of two different variants. Cats with the genotype c/b will have Type C.**

Type A		 Anti-B Antibody	 Possible genotypes : A/A, A/b1, A/b2, A/b3, A/c	 Transfusion : The cat can receive Type A blood.
Type B		 Anti-A Antibody	 Possible genotypes : b1/b1, b2/b2, b3/b3, b1/b2, b1/b3, b2/3	 Transfusion : The cat can receive Type B blood.
Type C (AB)		<i>Anti-A and Anti-B antibodies are NOT present.</i>	 Possible genotypes : c/c, c/b1, c/b2, c/b3	 Transfusion : The cat should ideally receive Type C blood but they can also receive Type A if necessary.

Neonatal Isoerythrolysis can occur **when a female cat with Type B gives birth to kittens with Type A or Type AB.** A mother with Type B blood produces a large amount of anti-A antibodies. These antibodies can be transmitted to the kittens through colostrum (the first milk of the mother) during the first 24 hours after birth, leading to massive destruction of red blood cells in the affected kittens.



General Information

Transmission of Blood Types

Crosses Phenotypes	Parents Genotypes		Kittens * Phenotypes	Kittens * Genotypes
Type A x Type A	A/A	A/A	100% Type A	100% A/A
	A/A	A/b	100% Type A	50% A/A, 50% A/b
	A/A	A/c	100% Type A	50% A/A, 50% A/c
	A/b	A/b	75% Type A, 25% Type B	25% A/A, 50% A/b, 25% b/b
	A/b	A/c	75% Type A, 25% Type C (AB)	25% A/A, 25% A/b, 25% A/c, 25% c/b
	A/c	A/c	75% Type A, 25% Type C (AB)	25% A/A, 50% A/c, 25% c/c
Type A x Type B	A/A	b/b	100% Type A	100% A/b
	A/b	b/b	50% Type A, 50% Type B	50% A/b, 50% b/b
	A/c	b/b	50% Type A, 50% Type C (AB)	50% A/b, 50% c/b
Type A x Type C (AB)	A/A	c/b	100% Type A	50% A/b, 50% A/c
	A/b	c/b	50% Type A, 25% Type B, 25% Type C (AB)	25% A/c, 25% A/b, 25% b/b, 25% c/b
	A/c	c/b	50% Type A, 50% Type C (AB)	25% A/c, 25% A/b, 25% c/b, 25% c/c
	A/A	c/c	100% Type A	100% A/c
	A/b	c/c	50% Type A, 50% Type C (AB)	50% A/c, 50% c/b
	A/c	c/c	50% Type A, 50% Type C (AB)	50% A/c, 50% c/c
Type B x Type B	b/b	b/b	100% Type B	100% b/b
Type B x Type C (AB)	b/b	c/b	50% Type B, 50% Type C (AB)	50% b/b, 50% c/b
	b/b	c/c	100% Type C (AB)	100% c/b
Type C (AB) x Type C (AB)	c/b	c/b	25% Type B, 75% Type C (AB)	25% b/b, 50% c/b, 25% c/c
	c/b	c/c	100% Type C (AB)	50% c/b, 50% c/c
	c/c	c/c	100% Type C (AB)	100% c/c

* The percentages of genotypes resulting from crosses are statistical values: they represent a probability, and the actual results may vary from one litter to another.



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Frequencies of Genetic Blood Types *

* These data have been published in [Anderson et al. en 2022](#) and mainly concerns cats from North America and Finland. The frequencies of genetic variants in cats from other regions of the world remains to be determined.

Frequencies of blood type genotypes in the following breeds :

Breed	Type C (c/b, c/c)	Type B (b/b)
Abyssinian / Somali	0.0%	0.0%
American Bobtail	0.0%	15.9%
American Curl	0.0%	40.4%
American Shorthair	0.0%	2.0%
Bengal	0.1%	0.0%
Birman	0.0%	10.9%
British Shorthair	0.0%	20.3%
Burmese	0.0%	1.2%
Chartreux	0.0%	8.3%
Cornish Rex	0.0%	33.0%
Devon Rex	0.0%	30.3%
Donskoy	0.0%	0.0%
Egyptian Mau	0.0%	0.0%
European Shorthair	2.2%	3.3%
Exotic Shorthair	0.0%	4.4%
Havana Brown	0.0%	20.0%
Highlander	0.0%	0.4%
Khaomane	0.0%	0.0%
Korat	0.0%	0.0%
LaPerm	0.0%	0.0%
Lykoi	1.0%	5.8%
Maine Coon	0.0%	0.8%
Manx	0.0%	2.2%

Breed	Type C (c/b, c/c)	Type B (b/b)
Munchkin	0.0%	2.8%
Norwegian Forest Cat	0.0%	0.0%
Ocicat	0.0%	0.0%
Oriental	0.0%	0.0%
Persan	0.0%	1.5%
Peterbald	0.0%	0.0%
Pixiebob	0.0%	6.1%
Ragamuffin	3.4%	0.8%
Ragdoll	2.2%	1.7%
Russian Blue	1.5%	0.0%
Savannah	0.0%	0.0%
Scottish Fold	3.3%	8.9%
Scottish Straight	0.0%	12.0%
Selkirk Rex	0.0%	5.0%
Siamese	0.0%	0.4%
Siberian	0.0%	1.9%
Singapura	0.0%	0.0%
Sphynx	0.0%	7.9%
Tennessee Rex	0.0%	0.0%
Tonkinese	0.0%	0.0%
Toybob	0.0%	12.5%
Turkish Angora	0.0%	11.8%
Turkish Van	0.0%	12.5%

