

Non-LTR retrotransposon の group と clade のリスト

これまでに提唱された non-LTR retrotransposon の group と clade をまとめてみました。最初に non-LTR retrotransposon の分類単位としての group と clade の定義を紹介します。

Clade は Malik らによって 1999 年に提唱された分類単位で、以下の三つの条件を満たすものとされました(Malik, Burke and Eickbush 1999)。

- (1) 構造上共通する特徴を持つ
- (2) 逆転写酵素を用いた系統解析で単系統性が十分支持される
- (3) 系統の起源が先カンブリア時代まで遡る

Malik らは 11 の clade を提唱しましたが、その後新しい clade が次々と提唱され、数が増加したため、Eickbush らにより group が提唱されました(Eickbush and Malik 2002)。Group は clade を更にまとめる単位で、逆転写酵素の系統樹とタンパク質のドメイン構造に基づいています。ここで提唱された五つの group (R2, L1, RTE, I, Jockey) に加えて、Dualen、CR1、CRE の 3 つが提唱されていますが、group はあくまで clade をまとめるために導入された便宜的な分類単位ですので、これ自体に科学的な意味はありません。

Table. Proposed Groups and Clades of non-LTR retrotransposons.

Group	Clade	Representative	Species	References
CRE	CRE	<i>CRE2</i>	<i>Crithidia fasciculata</i>	(Malik, Burke and Eickbush 1999)
	Genie	<i>Genie1A/GilM</i>	<i>Giardia lamblia</i>	(Burke et al. 2002)
R2	R2	<i>R2Dm</i>	<i>Drosophila melanogaster</i>	(Malik, Burke and Eickbush 1999)
	R2-A	<i>R2Dr</i>	<i>Danio rerio</i>	(Kojima and Fujiwara 2005b)
	R2-B	<i>R2-1_TCAs</i>	<i>Tribolium castaneum</i>	(Kojima and Fujiwara 2005b)
	R2-C	<i>R2Sm-A</i>	<i>Schistosoma mansoni</i>	(Kojima and Fujiwara 2005b)
	R2-D	<i>R2Dm</i>	<i>Drosophila melanogaster</i>	(Kojima and Fujiwara 2005b)
	R4	<i>R4</i>	<i>Ascaris lumbricoides</i>	(Malik, Burke and Eickbush 1999)

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	NeSL	<i>NeSL-1</i>	<i>Caenorhabditis elegans</i>	(Malik and Eickbush 2000)
	HERO	<i>HERODr</i>	<i>Danio rerio</i>	(Kojima et al. 2006)
Dualen	Dualen	<i>DualenCr1</i>	<i>Chlamydomonas reinhardtii</i>	(Kojima and Fujiwara 2005a)
L1	L1	<i>L1</i>	<i>Homo sapiens</i>	(Malik, Burke and Eickbush 1999)
	Tx1	<i>Tx1</i>	<i>Xenopus laevis</i>	(Putnam et al. 2007)
	Proto1	<i>Proto1-1_NG</i>	<i>Naegleria gruberi</i>	(Kapitonov and Jurka 2009a)
RTE	RTE	<i>RTE-1</i>	<i>Caenorhabditis elegans</i>	(Malik, Burke and Eickbush 1999)
	RTEX	<i>RTEX-1_NV</i>	<i>Nematostella vectensis</i>	(Putnam et al. 2007)
	RTETP	<i>RTE-1_TP</i>	<i>Thalassiosira pseudonana</i>	(Kapitonov, Tempel and Jurka 2009)
	Proto2	<i>Proto2-1_BF</i>	<i>Branchiostoma floridae</i>	(Kapitonov and Jurka 2009b)
I	I	<i>I</i>	<i>Drosophila melanogaster</i>	(Malik, Burke and Eickbush 1999)
	Ingi	<i>Ingi</i>	<i>Trypanosoma brucei</i>	(Eickbush and Malik 2002)
	Vingi	<i>Vingi-1_EE</i>	<i>Erinaceus europaeus</i>	(Kojima, Kapitonov and Jurka 2010)
	Outcast	<i>Ag-Outcast-6</i>	<i>Anopheles gambiae</i>	(Biedler and Tu 2003)
	Loner	<i>Ag-Loner-1</i>	<i>Anopheles gambiae</i>	(Biedler and Tu 2003)
	Nimb	<i>nimbus</i>	<i>Biomphalaria glabrata</i>	(Kapitonov, Tempel and Jurka 2009)
	R1	<i>R1Bm</i>	<i>Bombyx mori</i>	(Malik, Burke and Eickbush 1999)
	LOA	<i>LOA</i>	<i>Drosophila silvestris</i>	(Malik, Burke and Eickbush 1999)
	Tad1	<i>Tad1</i>	<i>Neurospora crassa</i>	(Malik, Burke and Eickbush 1999)
Jockey	Jockey	<i>Jockey</i>	<i>Drosophila</i>	(Malik, Burke and Eickbush 1999)

			<i>melanogaster</i>	1999)
CR1	CR1	<i>CRI</i>	<i>Gallus gallus</i>	(Malik, Burke and Eickbush 1999)
	L2	<i>CRI-1_DR</i>	<i>Danio rerio</i>	(Lovsin, Gubensek and Kordi 2001)
	Rex1	<i>REXI_DR</i>	<i>Danio rerio</i>	(Volf, Korting and Scharl 2000)
	L2A	<i>CRI-34_HM</i>	<i>Hydra magnipapillata</i>	(Kapitonov, Tempel and Jurka 2009)
	L2B	<i>CRI-1_AG</i>	<i>Anopheles gambiae</i>	(Kapitonov, Tempel and Jurka 2009)
	Daphne Crack	<i>Daphne_DS</i>	<i>Darwinula stevensoni</i> .	(Schon and Arkhipova 2006) (Kapitonov, Tempel and Jurka 2009)
?	REP	<i>REPI</i>	<i>Tetrahymena</i> <i>thermophila</i>	(Fillingham et al. 2004)
?	Odin	<i>Odin-1</i>	<i>Oikopleura dioica</i>	(Volf et al. 2004)
?	Inkcap	<i>SrNLR1</i>	<i>Sporobolomyces</i> <i>roseus</i>	(Novikova, Fet and Blinov 2009)
?	Deceiver	<i>LbNLR8</i>	<i>Laccaria bicolor</i>	(Novikova, Fet and Blinov 2009)
?	Ambal	<i>Ambal-1_FCy</i>	<i>Fragilariopsis</i> <i>cylindrus</i>	(Kapitonov and Jurka 2010)

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